

**THE ENTREPRENEUR'S SOCIAL SELF AND ITS IMPACT
ON THE ENTREPRENEURIAL PROCESS**

Dissertation to obtain the doctoral degree of
Economic Sciences (Dr. oec.)

Faculty of Business, Economics and Social Sciences
University of Hohenheim

Institute of Marketing & Management

Submitted by
Leif Brändle

from Waiblingen

2020

Acknowledgments

On a personal level, this dissertation represents an opportunity for a lookback on the initial steps of an academic journey. While the starting point of such a journey is blurry and difficult to identify, the people involved appear in clear shape. First of all, in order to start a journey there is the need for a vision of where to land. Second, once a journey gains momentum it might be important to adjust directions. Prof. Dr. Andreas Kuckertz provided me with both, outstanding vision and guidance as supervisor and co-author along the route for which I want to express my deepest gratitude. Further, the encounters during the journey became part of the actual destination. I want to thank Prof. Dr. Elisabeth Berger for her companionship as co-author, academic sparring partner and role model along the way. Also, I want to express my thanks to Dr. Martin Allmendinger for accelerating my interest in entrepreneurship as a field of research through his commitment as outstanding educator. Thanks to Prof. Michael Howard for inviting me to visit the Department of Management at Texas A&M University and becoming a mentor. This research visit not only broadened my sight on academic contributions in the field of management, it also led to exciting research projects that address some of the research opportunities emerging from the lines of this dissertation. In this vein, I want to thank Prof. Toby Li and Prof. Emily Cox Pahnke for their advice and insight as exemplary co-authors. Finally, a great journey usually starts from a place called home. I want to thank my grandparents, Karl Brändle and Hilde Brändle as well as my parents Bernd Brändle and Jutta Brändle for providing me the place from which to start such a journey. To Emilija I would like to express my gratitude, since during my journey she created a place to which I could always return.

Abstract

Economic action is embedded into social systems. Prior research in entrepreneurship research has made substantial progress in delineating the impact of entrepreneurial activity on societal progress. The early agentic view on entrepreneurship relies on perceiving individual entrepreneurs as actors who shape their economic and social environments. However, entrepreneurs and their organizations are, at the same time, embedded in and driven by their social environments. Positions in social systems, in particular, might inform how individuals discover, evaluate, and exploit entrepreneurial opportunities. This doctoral thesis aims to shed light on how individuals' feelings of belonging and status in social environments influence key mechanisms in the entrepreneurial process. More specifically, the thesis builds and tests a theory on how the social class origins of individuals influence their beliefs in entrepreneurial feasibility and alter their entrepreneurial career intentions. Furthermore, it addresses how the perceived belonging to a social group—namely, the social identity of founders—influences the strategic orientations of new ventures and ultimately impacts the entrepreneurship outcomes for the organization, the community, and the society. By drawing on the extant literature and collecting new data, this thesis analyzes the interplay between individuals' feelings of social belonging, their status, and the key mechanisms of the entrepreneurial process over the course of four quantitative studies. In building on the existing discussions about the compatibility of structural and agentic views, it develops a theoretical model of the entrepreneur's social self, functioning as intermediary between social systems and an entrepreneur's behavior. For instance, the first study of this dissertation asks how social class origins affect entrepreneurial self-efficacy. Based on a sample of 700 individuals that are largely representative of the German student population, the findings show that early social environments imprint cognitive tendencies toward entrepreneurship such as an individual's perceived entrepreneurial self-efficacy. However, in line with the study's hypotheses, individuals can alter these cognitive imprints through selecting and creating more favorable environments at later points in time. Specifically, education and perceptions of social mobility alter initial cognitive imprints toward individuals' belief of adequately responding to relevant entrepreneurial tasks. Whereas the first study of this dissertation enhances the understanding of the role of individuals' perceived positions in social systems over time on their perceived feasibility of the entrepreneurial process, the second study sheds light on how such perceptions of feasibility and social position affect entrepreneurial career entries. Based on a survey among 1,003 young adults in a critical career phase, the study's findings indicate that social class origins influence how rather than if

individuals intend to enter an entrepreneurial career. That is, the higher the individuals' social class origins, the more likely their intention to combine paid employment with self-employment activities as entrepreneurial career path. While the first two studies highlight the role of positions in social systems for the entrepreneurial process, the remaining two studies in this dissertation turn toward how perceptions of belonging to social systems drive individual entrepreneurial cognition, firm-level strategic decision making and performance. Hence, one study asks how entrepreneurs' social identities affect their entrepreneurial self-efficacy. Since social identities represent individual feelings of belonging to groups in social systems, the study hypothesizes how belonging to particular founder groups alters individuals' beliefs in their entrepreneurial self-efficacy. Drawing on a survey among 753 nascent entrepreneurs, the study finds that feelings of belonging generally increase entrepreneurial self-efficacy beliefs. Furthermore, nascent entrepreneurs identifying with a group of self-oriented entrepreneurs (driven by economic self-interest) more likely experience entrepreneurial self-efficacy compared to those entrepreneurs identifying with a group of others-oriented entrepreneurs (driven by interests in communitarian and societal value generation). The final study of this dissertation takes up the difference between self- and other oriented founder identities in order to examine its impact on new ventures' strategic decision making and performance. Based on a sample of 318 active founders, the study's findings delineate how founders' social identities influence the innovativeness, risk-taking and proactiveness of their newly found ventures. Furthermore, the findings indicate that these strategic orientations only partially succeed in translating founders' social identities into performance. Whereas founder social identities that focus on creating value for others trigger more innovative ventures, self-oriented social identities are related to more risk-taking at an organizational level, which leads to higher performance outcomes at the enterprise, community, and societal levels. Overall, the results of this dissertation contribute to research on how individuals interpret their social environments and accordingly form decisions in the entrepreneurial process. Particularly, the findings speak to the emerging field of research on the interplay between social inequality and entrepreneurial organizations. However, this doctoral thesis can only be an intermediate step of understanding the inclusiveness of the entrepreneurial process. Hence, it formulates a call and outlines a future research agenda on how social status influences the ways in which individuals identify, evaluate, and exploit entrepreneurial opportunities. This might lay the ground for further research on the role of the entrepreneur's social self in the entrepreneurial process.

Zusammenfassung

Wirtschaftliches Handeln ist in soziale Systeme eingebettet. Die bisherige Forschung im Bereich des Unternehmertums erzielte wesentliche Fortschritte bei der Beschreibung der Auswirkungen unternehmerischen Handelns auf den gesellschaftlichen Fortschritt. Die in früher Literatur grundlegende Sichtweise auf das Unternehmertum beruht darauf, einzelne Unternehmer als Akteure wahrzunehmen, die ihr wirtschaftliches und soziales Umfeld gestalten. Unternehmer und ihre Organisationen sind jedoch gleichzeitig in ihr soziales Umfeld eingebettet und werden von diesem angetrieben. Insbesondere Positionen in sozialen Systemen können darüber Aufschluss geben, wie Individuen unternehmerische Gelegenheiten entdecken, bewerten und nutzen. Diese Dissertation soll beleuchten, wie das Zugehörigkeits- und Statusgefühl von Individuen in sozialen Kontexten Schlüsselmechanismen im unternehmerischen Prozess beeinflussen. Zu diesem Zweck, entwickelt und validiert diese Dissertation eine Theorie zum Einfluss der sozialen Herkunft auf unternehmerische Karriereabsichten und unternehmerische Selbstwirksamkeit. Darüber hinaus befasst sie sich mit der Frage, wie die wahrgenommene Zugehörigkeit zu einer sozialen Gruppe - namentlich die soziale Identität der Gründerinnen und Gründer - die strategischen Ausrichtungen neuer Unternehmen beeinflusst und sich letztlich auf die Ergebnisse des Unternehmertums für die Organisation, die Gemeinschaft und die Gesellschaft auswirkt. Auf der Grundlage der vorhandenen Literatur und der Erhebung neuer Daten analysiert diese Thesis das Zusammenspiel zwischen der wahrgenommenen sozialen Zugehörigkeit von Individuen, ihrem Status und den Schlüsselmechanismen des unternehmerischen Prozesses im Verlauf von vier quantitativen Studien. Aufbauend auf den in der Literatur bestehenden Diskussionen über die Vereinbarkeit von strukturellen und personenbezogenen Wirkungsperspektiven entwickelt sie ein theoretisches Modell des sozialen Selbst eines Unternehmers, das als Vermittler zwischen sozialen Kontexten und dem Verhalten eines Unternehmers fungiert. In der ersten Studie dieser Dissertation wird zum Beispiel gefragt, wie sich die Herkunft aus einer sozialen Schicht auf die unternehmerische Selbstwirksamkeit auswirkt. Auf der Grundlage einer Stichprobe von 700 Individuen, die weitgehend repräsentativ für die deutsche Studentenpopulation sind, zeigen die Ergebnisse, dass frühe soziale Umgebungen unternehmerische Kognitionen wie die unternehmerische Selbstwirksamkeit eines Individuums prägen. In Übereinstimmung mit den Hypothesen der Studie können die Individuen diese kognitiven Prägungen jedoch verändern, indem sie zu späteren Zeitpunkten günstigere Umgebung auswählen oder entwickeln. Insbesondere Trainings und eine wahrgenommene soziale Mobilität verändern die anfänglichen

kognitiven Prägungen hin zu einer unternehmerischen Selbstwirksamkeit. Während die erste Studie dieser Dissertation das Verständnis der Rolle von wahrgenommenen Positionen in sozialen Systemen über die Zeit auf die unternehmerische Selbstwirksamkeit analysiert, beleuchtet die zweite Studie, wie solche Wahrnehmungen den Eintritt in eine unternehmerische Karriere beeinflussen. Auf der Grundlage einer Umfrage unter 1.003 jungen Erwachsenen in einer kritischen Karrierephase deuten die Ergebnisse der Studie darauf hin, dass die Herkunft aus einer sozialen Schicht eher einen Einfluss darauf hat, wie und nicht ob Individuen beabsichtigen, eine unternehmerische Laufbahn einzuschlagen. Das heißt, je höher die soziale Herkunft der Individuen ist, desto wahrscheinlicher ist es, dass sie beabsichtigen, eine bezahlte Beschäftigung mit einer selbständigen Tätigkeit als unternehmerischen Karriereweg zu kombinieren. Während die ersten beiden Studien die Rolle von Positionen in sozialen Systemen für den unternehmerischen Prozess hervorheben, wenden sich die beiden anderen Studien in dieser Dissertation der Frage zu, wie die Wahrnehmung der Zugehörigkeit in sozialen Systemen die individuelle unternehmerische Kognition, die strategische Entscheidungsfindung auf Unternehmensebene und den Unternehmenserfolg beeinflusst. Daher wendet sich eine Studie der Frage zu, wie soziale Identitäten von Unternehmern ihre unternehmerische Selbstwirksamkeit beeinflussen. Da soziale Identitäten individuelle Zugehörigkeitsgefühle zu Gruppen in sozialen Systemen repräsentieren, stellt die Studie die Hypothese auf, dass die Zugehörigkeit zu bestimmten Gründergruppen den Glauben der Individuen an ihre unternehmerische Selbstwirksamkeit verändert. Auf der Grundlage einer Umfrage unter 753 angehenden Unternehmern kommt die Studie zu dem Ergebnis, dass Zugehörigkeitsgefühle im Allgemeinen den Glauben an die unternehmerische Selbstwirksamkeit verstärken. Darüber hinaus erleben angehende Unternehmer, die sich mehr mit einer Gruppe von selbstorientierten Unternehmern identifizieren (angetrieben durch wirtschaftliches Eigeninteresse), eine höhere Selbstwirksamkeit als Unternehmer, die sich verstärkt mit einer Gruppe von sozial-orientierten Unternehmern identifizieren (angetrieben durch Interessen an kommunitärer und gesellschaftlicher Wertschöpfung). Die Abschlussstudie dieser Dissertation greift den Unterschied zwischen selbst- und sozialorientierten Gründeridentitäten auf, um Auswirkungen auf die strategische Entscheidungsfindung und Leistung neuer Unternehmen zu untersuchen. Auf der Grundlage einer Stichprobe von 318 aktiven Gründerinnen beschreiben die Ergebnisse der Studie, wie die sozialen Identitäten von Gründern die Innovationsfähigkeit, Risikobereitschaft und Proaktivität ihrer neu gegründeten Unternehmen beeinflussen. Darüber hinaus deuten die Ergebnisse darauf hin, dass es den strategischen Orientierungen nur teilweise gelingt, die sozialen Identitäten der Gründerinnen in den gewünschten Unternehmenserfolg

umzusetzen. Während soziale Identitäten von Gründern, die sich auf die Wertschöpfung für andere konzentrieren, innovativere Unternehmungen hervorbringen, sind selbstorientierte soziale Identitäten mit mehr Risikobereitschaft auf organisatorischer Ebene verbunden, was zu höheren Unternehmenserfolgen auf Unternehmens-, Gemeinschafts- und gesellschaftlicher Ebene führt. Insgesamt tragen die Ergebnisse dieser Dissertation zu der Frage, wie die Interpretation sozialer Umgebungen individuelle Entscheidungen im unternehmerischen Prozess prägen, bei. Vor allem betten sich die Ergebnisse dabei in das aufstrebende Forschungsfeld der Wechselwirkung zwischen sozialer Ungleichheit und unternehmerischer Organisationen ein. Dennoch kann diese Doktorarbeit nur ein Zwischenschritt hin zu einem Verständnis der sozialen Zugänglichkeit des unternehmerischen Prozesses sein. Daher formuliert und skizziert die Dissertation eine Forschungsagenda zu der Frage, wie und warum sozialer Status die Identifikation, das Bewerten und das Nutzen unternehmerischer Gelegenheiten beeinflusst. Damit bietet die Doktorarbeit einen Ausgangspunkt für zukünftige Forschung zur Rolle des sozialen Selbst im unternehmerischen Prozess.

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1 Introduction

Actors do not behave or decide as atoms outside a social context, nor do they adhere slavishly to a script written for them by the particular intersection of social categories that they happen to occupy. Their attempts at purposive action are instead embedded in concrete, ongoing systems of social relations.
~ Granovetter (1985, p. 487)

Entrepreneurship is heterogeneous (Welter et al., 2017) and brings to light various individuals and organizations to discover, evaluate, and exploit different opportunities (Shane & Venkataraman, 2000). The questions why, when, and how individuals pursue opportunities, as well as why, when, and how different approaches are used to seize them, have driven the research in the field of entrepreneurship since its very inception (Shane & Venkataraman, 2000). As new ventures are mainly driven by their founders, especially in the beginning, a look at who they are and who they want to be might bring us closer to answering the above-stated questions. Humans can generally define their “self” through their reflexive consciousness experiences, using their functions of choice and control and their interpersonal relatedness (Baumeister, 1998). However, above all, individuals define themselves in terms of category memberships, which form a social self and indicate belonging (e.g., to a group or a social class) (Brewer, 1991). The distinct role of entrepreneurs in the entrepreneurial process can be explained using the entrepreneurial cognition perspective, which refers to “the knowledge structures that people use to make assessments, judgments, or decisions involving opportunity evaluation, venture creation, and growth” (Mitchell et al., 2002, p. 97). Since the social self is formed through and has an impact on cognitive structures and processes (Abrams & Hogg, 1999), these concepts are clearly highly interrelated but have scarcely been examined together in entrepreneurship research.

A classic question posed by economic theory research addresses the interrelationship between social structures and economic behaviors (Granovetter, 1985). While early works in economic theory stress the role of environments in determining the agency of economic actors (Aldrich, 1979; Aldrich & Pfeffer, 1976; Hannan & Freeman, 1977), entrepreneurship research has evolved around an agent-centric model of behavior (Schumpeter, 1934). This means that entrepreneurs are individuals who are willing and able to change their social circumstances through entrepreneurial action (McMullen et al., 2020). The past several decades of

entrepreneurship research have produced remarkable evidence for how entrepreneurial action affects social systems, with the most impressive effects being job creation and overall economic, ecological, and societal benefits (Audretsch, 2009; Kuckertz, Berger, & Gaudig, 2019; Kuckertz & Wagner, 2010). Nevertheless, how social systems affect the process of discovering, evaluating, and exploiting entrepreneurial opportunities remains astonishingly unclear.

Early work in the development phase of the entrepreneurship field recognizes that entrepreneurship does not take place in a “vacuum” but that, instead, it highly depends on taking the environments of actors into consideration (Gartner, 1985). For instance, understanding entrepreneurs as part of an entrepreneurial ecosystem sheds light on the interplay between environment and entrepreneurial actors (Berger & Kuckertz, 2016; Kuckertz, 2019). Recently, entrepreneurship researchers call for further consideration of the social context of entrepreneur in order to make sense of the observed behavior (Anderson & Jack, 2002; Dahl & Sorenson, 2009; Welter, 2011). However, studying the environment of entrepreneurs as an explaining variable remains a rare exception in extant research (Davidsson, 2020). Clearly, “neither the environment-centric nor the individual-centric approach toward entrepreneurship is more *correct* than the other” (Shane, 2003, p. 3). In this vein, social cognitive theories call for further understanding of the interplay between social environments and individual cognition (Bandura, 1986; Brewer, 1991; Brewer & Gardner, 1996; Lent & Brown, 2013; Lent et al., 1994, 2000; Stephens et al., 2012; Tajfel & Turner, 1979).

Drawing on these theories, the author attempts to reconcile the structural and agentic perspectives by developing and testing a theory that shows how the way in which individuals perceive their position both in and belonging to social systems—the *entrepreneur’s social self*—acts as an intermediary between social environments and entrepreneurial action (Figure 1-1).

This dissertation aims to examine how perceptions of social embeddedness (i.e., social identities) and dispositional and changing social environments (i.e., social classes) alter the thoughts, feelings, and actions of entrepreneurs. The aim is to contribute to the discussion about the interrelationship between social context and human agency in entrepreneurial action. In particular, this dissertation proposes that positions in social hierarchies and feelings of belonging to societal groups alter the way in which individuals develop beliefs about their entrepreneurial capabilities (i.e., entrepreneurial self-efficacy, discussed in Studies 1 and 4), their intentions of entering entrepreneurship (entrepreneurial career choice, discussed in Study 3), the strategies they use in their newly found ventures (i.e., entrepreneurial orientation,

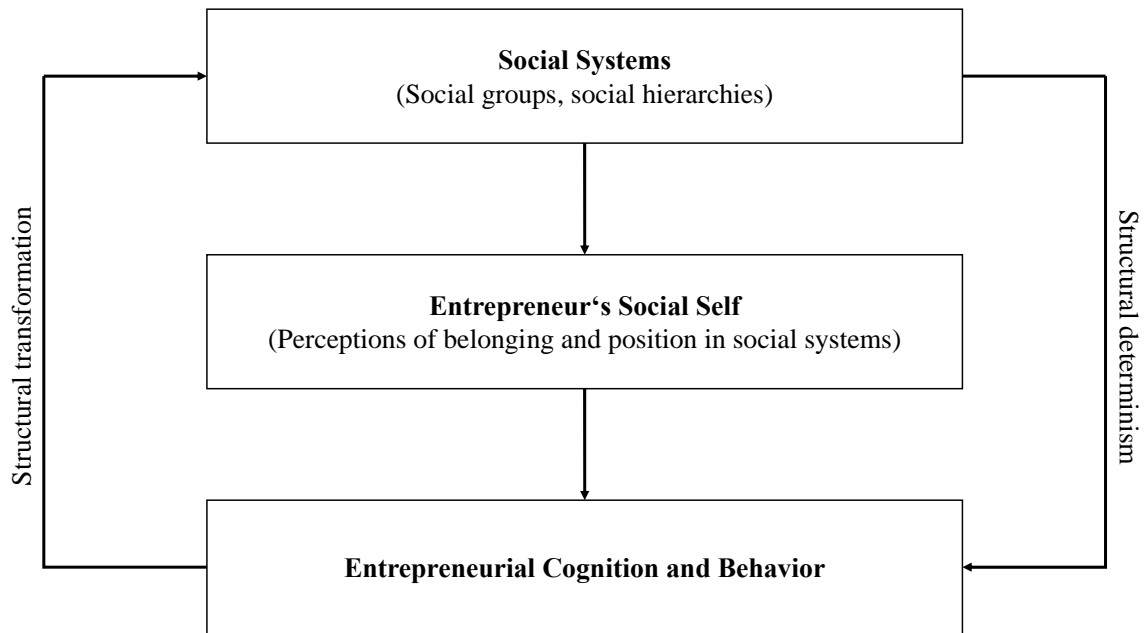


Figure 1-1: The entrepreneur's social self as an intermediary between social systems and entrepreneurial actions.

discussed in Study 2), and the outcomes of entrepreneurial action for individuals, communities, and society in general (Study 3). At the same time, the findings of this dissertation also indicate that dispositional social structures can be altered as new environments are selected or created (see Study 3). Consequently, the author of this dissertation argues that key mechanisms in the entrepreneurial process are embedded in individuals' social positions and belonging. Hence, an introduction to the prior emergence of social status and belonging in the entrepreneurship literature is provided in the following sections.

1.1 Positions in social systems and entrepreneurship

Social relations are crucial for economic actors because they constitute the basis of exchange, building the pipes through which resources flow and the prisms through which signals of quality and trust become visible to others (Podolny, 2001). The position of economic actors in these social systems is crucial for their success. Studies on the effects of the social networks of entrepreneurs improve our understanding of the social embeddedness of entrepreneurial action (Davidsson & Honig, 2003; De Carolis & Saporito, 2006; Jack, 2010; Slotte-Kock & Coviello, 2010). For instance, it is shown that discovering opportunities depends on an entrepreneur's social ties and social capital (Burt, 2004; Honig, 1998). At the firm level,

studies indicate that a new venture's position in a network of economic actors influences its survival and growth (Milanov & Shepherd, 2013; Stuart & Hybels, 1999). This means that the higher an entrepreneurial firm climbs the economic actor social ladder in a given social system, the better its access is to relevant resource holders and to developing alliance partnerships with established organizations (Allmendinger & Berger, 2019; Podolny, 1993, 1994). Furthermore, the perceptions of other economic actors about a firm's quality are enhanced with its status in the social system, independent from its actual quality (Benjamin & Podolny, 1999; Washington & Zajac, 2005). Once acquired, the privileges that are based on an actor's position in a social system reproduce and grow over time—this is also known as the Matthew effect (Berger & Kuckertz, 2018; Merton, 1968) on the basis of which social structures are reproduced and solidified. The findings of this research stream on organizational status show how social structures and, more importantly, the positions of entrepreneurial firms in these structures, drive new ventures' behavior and performance.

Despite this, the effects of status in social systems on entrepreneurial behavior at the individual level remain scarcely addressed by recent entrepreneurship research. Taking society as an example of the most apparent social system and hierarchy (i.e., social classes), it remains unclear how the positions of individuals in it affect the way in which they discover, evaluate, and exploit entrepreneurial opportunities. Most studies take the transformative approach to entrepreneurship by investigating the effects of entrepreneurial action on economic development at the individual, organizational, and societal levels (Carter, 2011; Kimmitt, et al. 2020). However, studies on how positions in social systems affect the entrepreneurial process are rare (Audretsch et al., 2013; Schoon & Duckworth, 2012). More recently, scholars have begun to discuss how economic inequality influences entrepreneurship and vice versa (Frid et al., 2016; Packard & Bylund, 2018; Perry-Rivers, 2016). In the broader management literature, the interest in studying the positions of individuals in social hierarchies is recently rising (Amis et al., 2020; Bapuji et al., 2019; Martin & Côté, 2019; Pitesa & Pillutla, 2019). By synthesizing prior research in organizational behavior, Pitesa and Pillutla (2019) conclude that socio-economic backgrounds trigger certain within-organization dynamics, such as biased perceptions of quality and centrality of work. Employees experiencing social mobility are proposed to have unique cultural abilities for bridging organizational members from different class backgrounds (Martin & Côté, 2019). Yet, as societal inequality drives behaviors within organizations, these organizations are also shown to reproduce inequality (Amis et al., 2020; Bapuji et al., 2019).

While the discourse on the positions of individuals in social hierarchies and the role of organizations in reproducing social structures has found its way into management research (Côté, 2011; Loignon & Woehr, 2018), entrepreneurship—as its own unique field of research—currently lacks answers for how this affects the discovery, evaluation, and exploitation of entrepreneurial opportunities (Shane & Venkataraman, 2000). Consequently, this dissertation attempts to take the first steps in this arena by answering the question how social class backgrounds influence entrepreneurial agency and entry of individuals. Hence, the author draws on the social cognitive theory of human behavior (Bandura, 1986) in order to assess how perceptions of social class origins and social class mobility alter beliefs in entrepreneurial agency—i.e., entrepreneurial self-efficacy. Furthermore, based on the social cognitive career theory (SCCT) (Lent & Brown, 2013; Lent et al., 1994, 2000) and the theory of planned behavior (TPB) (Ajzen, 1991), the author investigates the way in which certain social environments, such as social class origins, influence how individuals enter entrepreneurial careers—specifically in terms of the phenomena of combining paid employment and self-employment (i.e., hybrid entrepreneurship, see Folta et al., 2010) and of transitioning from paid-employment to self-employment (i.e., spawning entrepreneurship, see Habib et al., 2013).

Positions in social systems and the feeling of belonging to a group are interrelated concepts because stratification leads to the formation of similar-status groups (Destin et al., 2017; Lawrence & Shah, 2020). Henceforth, the author introduces why the feelings of belonging experienced by individuals are relevant for the entrepreneurial process.

1.2 Belonging to a social system and entrepreneurship

A paradox in entrepreneurship lies in the fact that it has the potential, at the same time, to provide individuals' with distinctiveness in comparison to other members of their society and to generate their feelings of belonging (Shepherd & Haynie, 2009). These feelings are formed and established through intergroup dynamics (Tajfel & Turner, 1986). Hence, the experienced feelings of belonging to specific groups form the social identities of individuals and, consequently, their perceptions of their social selves (Brewer, 1991). Groups are shown to establish in-group artifacts with which their members distinguish themselves from members of out-groups (Tajfel & Turner, 1986). Due to the prototypical role of artifacts and in-group members as role models, there is an implicit push for group members to behave in a manner that is similar to the one exhibited by other members of the same group (Hogg & Terry, 2000). Feeling the sense of belonging to a group, therefore, implies behavior that is in line with the prototypical behavior of the in-group (Gruber & MacMillan, 2017).

Entrepreneurship research has only recently discovered the importance of social identities for entrepreneurial opportunity discovery, evaluation, and exploitation (Brändle et al., 2018, 2019; de la Cruz et al., 2018; Greenberg & Mollick, 2017; Ko et al., 2020; Powell & Baker, 2014, 2017; Sieger et al., 2016a; Zuzul & Tripsas, 2020). For instance, prior research investigates how female founders support each other in obtaining funding based on their shared social identities (Greenberg & Mollick, 2017) and how strategic entrepreneurial decisions are based on protecting a family's group identity (Akhter et al., 2016). Most recently, Zuzul and Tripsas (2020) show that social identity affirmation drives the strategic inertia and flexibility choices of startups. This means that they react upon environmental shifts in a way that confirms their understanding of their social self. Finally, Ko et al. (2020) show how social identities affects the relationship between entrepreneurial team diversity and productivity.

Most studies investigate social identities as belonging to groups at the family and team levels. That is, they investigate how the feelings of belonging to a founder team influence the entrepreneurial process (Powell & Baker, 2014). However, it remains unclear how different frames of reference and attitudes of founders toward them influence how they make sense of their entrepreneurial activities. In their seminal article, Fauchart and Gruber (2011) describe—based on Brewer and Gardner's (1996) conceptualization of social identities—how the basic motivation, the bases of self-evaluation, and the frames of reference of founders form their social identities. The authors conclude that there are three types of founder social identities: 1) a *Darwinian* founder identity, which focuses on economic self-interests and power; 2) a *communitarian* social identity, which implies solving problems of known others; and 3) a *missionary* social identity, which involves advancing a cause for unknown others. Consequently, these three founder identity types represent how individuals understand their selves as founders; furthermore, these types are also assumed to affect the way in which they perceive and exploit entrepreneurial opportunities (Gruber & MacMillan, 2017).

Based on this theory, the author poses the following question: how do social identities of nascent entrepreneurs influence their beliefs in their entrepreneurial self-efficacy? This question is answered by investigating how social identity affects a new venture's entrepreneurial orientation and, ultimately, its performance.

1.3 Thesis structure

This dissertation comprises four empirical studies that investigate how the social positions and identities of individuals influence their entrepreneurial self-efficacy, the paths through which they choose to enter their entrepreneurial careers, their new ventures' strategic

orientations, and their organizational-, community-, and societal-level outcomes (Table 1-1). Together, these four studies support the primary claim of this thesis—that individuals' social selves drive the key mechanisms in the entrepreneurial process.

In Study 1, the co-authors and the author investigate how the socio-economic family backgrounds of individuals influence their beliefs in overcoming different entrepreneurial tasks (i.e., their entrepreneurial self-efficacy). The baseline hypothesis is rooted in the social cognitive theory on social class, stating that individuals who grow up in harsh vs. rich environments develop a contextualist vs. solipsistic social cognitive tendency (Kraus et al., 2012). This means that individuals from lower social classes show cognitive tendencies that represent their experienced dependence on external environments and reduced control beliefs, whereas those from higher social classes perceive independence from external environments and show higher levels of agency beliefs. Hence, the co-authors and the author argue that the social class in which individuals grow up forms—through cognitive imprints—their later beliefs in entrepreneurial agency (i.e., self-efficacy), which is highly characteristic of high levels of independence. Next, we apply Bandura's (1986) social cognitive theory to assess how imposed, selected, and created environments can establish and alter the cognitive effects of early social environments. Specifically, we hypothesize that entrepreneurial environments, such as entrepreneurship education interventions, can enhance cognitive imprints. Finally, we argue that essentialist beliefs of perceived social class mobility can turn societal structural disadvantages into strengths (Tan & Kraus, 2015). This means that individuals from lower social class origins who perceive upward social mobility can disentangle their cognitive imprints and create new environments that foster their agency beliefs. By conducting a survey of a largely representative sample of the German student population—obtaining answers from 700 students—the study's theoretical arguments are largely supported. Overall, this study contributes to research on how social inequality affects the entrepreneurial process (Audretsch et al., 2013; Frid et al., 2016; Perry-Rivers, 2016). In this context and to the author's knowledge, this study is the first to apply a social cognitive perspective in order to investigate how the perceptions that individuals have of their positions in social hierarchies affect entrepreneurship. Hence, the study concludes with various future research opportunities because this is, in the author's understanding, a research stream to which further contribution is worthwhile (Chapter 6 on future research avenues).

In Study 2, the co-authors and the author follow the ideas about entrepreneurial agency presented in Study 1 and ask how such formed beliefs—in an interplay with social context perceptions of individuals—influence entry into entrepreneurial careers. Drawing on the theory

of planned behavior (Ajzen, 1991) and on the social cognitive career theory (Lent & Brown, 2013; Lent et al., 1994, 2000), we specifically investigate why individuals choose transitional entrepreneurial career paths. From a practical point of view, most individuals find their way into entrepreneurship either through hybrid entrepreneurship—the combination of paid and self-employment (Folta et al., 2010)—or through spawning entrepreneurship—the use of paid employment as the breeding ground for subsequent full-time self-employment (Habib et al., 2013). However, prior research on the formation of entrepreneurial intention and behavior has neglected these emerging boundaryless career paths (Arthur & Rousseau, 1996). In our study, we first conduct a systematic review of the emergence of hybrid entrepreneurial career paths and shed light on the extant research on spawning entrepreneurship. Then, we build our hypotheses based on the theory of planned behavior (Ajzen, 1991), the social cognitive career theory (Lent & Brown, 2013; Lent et al., 1994, 2000), and the findings obtained from reviews on transitional careers. For instance, we hypothesize that elements of the theory of planned behavior (i.e., personal attitudes, subjective norms, perceived behavioral control) explain hybrid and spawning entrepreneurial career choices differently. Hybrid career choices are more likely driven by higher attitude and control beliefs toward entrepreneurship, whereas spawning entrepreneurial careers are more likely driven by subjective norms. Finally, we argue that social class origins alter an individual's intention to enter entrepreneurship via a hybrid vs. a spawning entrepreneurial path. That is, individuals from higher social class origins are more willing to take on the more risky endeavor of exploring two careers simultaneously in comparison to first entering paid employment and delaying their entrepreneurial entry via spawning. We test these theoretical arguments by conducting a survey among 1,003 young adults in German higher education institutions who are in a phase that is sensitive for their future careers. The findings support the developed hypotheses and contribute to prior research on social class origins being a barrier to entrepreneurial entry (Kim et al., 2006; Schoon & Duckworth, 2012) as well as to research on the theory of planned behavior and the social cognitive career theory in the formation of entrepreneurial intentions (Meoli et al., 2020). The contribution is twofold. First, the study shows that social class origins influence *how* rather than *if* individuals intend to enter entrepreneurship and, second, the findings show that the values and beliefs represented in the theory of planned behavior differently predict entrepreneurial entry into transitional career paths. The relationships that are found between various TPB elements and these transitional career paths also differ from prior findings on general entrepreneurial intention. Hence, this study provides fertile avenues for further research, such as exploring the intention–behavior gap against a background of transitional careers, as discussed in its final section.

Study 3 aims to shed light on whether and which founder social identity increases the self-beliefs of individuals in their capabilities to master entrepreneurial tasks—i.e., their entrepreneurial self-efficacy. The study extends Bandura’s (1989) theoretical framework on self-efficacy by investigating how different founder social identities (Fauchart & Gruber, 2011) influence key mechanisms in self-efficacy formation. Prior research on the antecedents of entrepreneurial self-efficacy largely neglects the feelings of belonging to a group that are experienced by individuals—i.e., their perceived embeddedness into social groups (Newman et al., 2019). The hypotheses of Study 3 draw on prior theorizing about how experiences of accomplishment, vicarious learning, social persuasion, and favorable physical—as well as emotional—states drive the formation of entrepreneurial self-efficacy (Boyd & Vozikis, 1994). Against these mechanisms, the co-authors and the author argue that those founders who identify more strongly with a Darwinian social identity—i.e., self-serving understanding of being a founder—are more likely to develop entrepreneurial self-efficacy, whereas the individuals who identify more strongly with being founders who aim to solve problems for others—i.e., communitarian and missionary social identities—face barriers in key mechanisms of their self-efficacy beliefs formation. Analyzing a sample of 753 nascent entrepreneurs in Germany, the study’s findings support these theoretical arguments. To the author’s knowledge, this study is the first study to suggest and show that the social identities of founders can influence their entrepreneurial self-efficacy. Fortunately, our study has already initiated further research on this topic (see the replication study by Hand et al., 2020). Since the central theme in the social cognitive theory (Bandura, 1986) is the reciprocal relationship between the social environment, cognition, and action of individuals, it provides first indications that future entrepreneurship research should especially consider the facet of entrepreneurs’ perceptions of their social environments. This might shed light on how the reciprocal environment–person relationship (Bandura, 1986) unfolds in the entrepreneurial process. The study closes with avenues for further research, thus laying the foundation for the synthesized discussion that takes place at the end of this thesis (Chapter 6).

Study 4 builds on Study 3 by bridging the effects of social identities from the individual to the organizational, community, and societal levels. It aims to develop understanding about how the strategic orientation of founder ventures is influenced by their social identity and how this strategic orientation influences the achievement of their desired outcomes. The study is motivated by a perspective that is missing from the widely established discussion on entrepreneurial orientation and its influence on the performance (Rauch et al., 2009) of entrepreneurs who found their ventures in order to advance a cause for others. Hence, it builds

on the theories of the strategic orientation of entrepreneurial firms—i.e., their entrepreneurial orientation (Covin & Slevin, 1989; Lumpkin & Dess, 1996, 2001). This means that a firm's orientation toward innovativeness, risk-taking, and proactiveness constitutes its *entrepreneurial* attribute (Lumpkin & Dess, 2001). The upper echelons theory (Hambrick & Mason, 1984) indicates that the characteristics of upper echelons—i.e., decision-makers in organizations—influence their organizations' strategic choices and, consequently, their performance. We draw on the upper echelons theory to hypothesize how different social identity types of founders (Fauchart & Gruber, 2011) influence strategic choices at the firm level. Furthermore, we investigate how the founder social identity frame of reference (self, community, society, see Sieger et al., 2016a) corresponds with performance at the organizational, community, and societal levels. We test these hypotheses using a sample of 318 active founders at early stages of venture growth. Our findings suggest that ventures of those founders who identify more strongly with benefitting others take a more innovative strategic direction, whereas ventures of founders who identify more strongly with their self-interests take more risks. However, we also find that the greater risk-taking of Darwinian venture founders enables better outcomes at the community and societal levels as well. Our implications, thus, aim to show how social entrepreneurs, specifically, can be supported to act more boldly in order to increase their impact. The study mainly contributes to research on the social identity theory about (Fauchart & Gruber, 2011) and entrepreneurial orientation (Lumpkin & Dess, 2001; Rauch et al., 2009) of founders. It sheds light on and empirically investigates the unique strategic orientation processes of founders by contrasting economic and social entrepreneurs (Lumpkin et al., 2013). The study closes with suggestions for further avenues of research, which serve as the foundation for our discussion about how this study contributes to overall new research directions in Chapter 6.

Table 1-1: Structure of this dissertation.

Study	Research question	Theory	Method	Key findings
Study 1: Social inequality and human agency—How social class origins affect entrepreneurial self-efficacy	How do social class origins affect entrepreneurial self-efficacy?	Social Cognitive Theory	Hierarchical regression analysis; 700 students, representative of the German student population.	<ul style="list-style-type: none"> • The higher the social class origins, the higher the entrepreneurial self-efficacy. • Entrepreneurship education enhances the relationship, while perceived social mobility reverses the effect.
Study 2: Staged entrepreneurship—The formation of hybrid and spawning entrepreneurial career path choices	Why do individuals enter staged entrepreneurial career pathways?	Theory of Planned Behavior, Social Cognitive Career Theory	Multinomial-logit model systematic review; 1,003 young adults in a critical career phase.	<ul style="list-style-type: none"> • The higher the social class origins, the more likely it is that a hybrid vs. a spawning entrepreneurial career path would be chosen. • The TPB elements that individuals possess (attitude, norms, control) differ between these two possible entrepreneurial career paths.
Study 3: I am what I am—How nascent entrepreneurs' social identity affects their entrepreneurial self-efficacy	How do different social identities of nascent entrepreneurs lead to differences in their entrepreneurial self-efficacy?	Social Identity Theory, Social Cognitive Theory	Hierarchical regression analysis; 753 nascent entrepreneurs.	<ul style="list-style-type: none"> • Social identities strengthen entrepreneurial self-efficacy. • Darwinian (i.e., self-interested) entrepreneurs perceive higher levels of self-efficacy in comparison to communitarian and missionary entrepreneurs (others-oriented).
Study 4: How entrepreneurial orientation translates social identities into performance	<p>RQ1: Does an EO of a new venture differ in accordance with the divergent social identities of founders?</p> <p>RQ2: Does a firm's EO contribute to delivering the desired outcomes of founders?</p>	Social Identity Theory, Entrepreneurial Orientation	Structural equation modelling; 318 active founders and their ventures.	<ul style="list-style-type: none"> • Founder social identities that focus on creating value for others trigger more innovative ventures. • Darwinian social identities are related to more risk-taking at an organizational level, which leads to higher performance outcomes at the enterprise, community, and societal levels.

2 Study 1 – Social inequality and human agency – How social class origins affect entrepreneurial self-efficacy ¹

Leif Brändle ^{a)}, Andreas Kuckertz ^{a)}

^{a)} University of Hohenheim

Abstract

This paper investigates how social inequality influences humans' beliefs in their entrepreneurial agency. The core hypothesis delineates that childhood social class influences entrepreneurial self-efficacy beliefs (ESE) in adulthood through cognitive imprints. The harsher the childhood environment, the less likely ESE unfolds in later life. However, this structural effect of social inequality is contingent on individuals' more agentic selection and creation of new environments over time. Participating in entrepreneurship education, therefore, enhances cognitive imprints from childhood, whereas perceptions of climbing up the social ladder significantly increase ESE beliefs for individuals from lower social class origins. We discuss the implications of the present study and future directions for studying the effects of social inequality on entrepreneurial cognition.

Keywords: Social Class, Entrepreneurial Self-Efficacy, Social Cognitive Theory, Entrepreneurship Education; Social Mobility

Declarations of interest: none.

Funding: this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

¹ Best Paper Award at 3E Conference in Gothenburg, 2019; Presented at G-Forum, 2019 in Vienna, Austria; Resubmitted (in the second round) to the Journal of Business Venturing.

2.1 Introduction

What drives entrepreneurial agency is a classic question in entrepreneurship research. Environments are significant precursors of entrepreneurial cognition (Shepherd et al., 2015; Welter, 2011). However, it remains unclear how an individual's position in social structures affects their entrepreneurial thoughts, feelings, and actions. Recent research on social inequality and entrepreneurship makes substantial progress on this matter. It delineates how resource endowments along social hierarchies influence entrepreneurial career decisions (Audretsch et al., 2013; Perry-Rivers, 2016; Xavier-Oliveira et al., 2015), and how, in turn, entrepreneurship produces social inequality (Atems & Shand, 2018; Packard & Bylund, 2018).

However, on the one hand, the agentic perspective emphasizes that actors can make the same entrepreneurial decisions despite occupying different social positions (Kim et al., 2006). On the other hand, the environmental determinist perspective argues that cognitive processes related to entrepreneurship are mainly based on environmental cues (Frid et al., 2016; Lofstrom et al., 2014).

According to Bandura (1986, p. 1175), “persons are neither autonomous agents nor simply mechanical conveyers of animating environmental influences.” Social cognitive theories allow us to study how individuals' actions reciprocally interact with their personalities and environments (Bandura, 1986; Fiske & Taylor, 1991; Smith & Semin, 2007). Therefore, individuals' cognition and behavior are only partially affected by their environments. The agentic part of social cognitive theory implies that humans can also select and create environments. Among the explanations of what constitutes these human agency mechanisms, “none is more central or pervasive than people's beliefs about their capabilities to exercise control over events that affect their lives” (Bandura, 1989, p. 1175). Therewith, self-efficacy beliefs can inform the interplay between structural and agentic elements in human functioning. Sociocognitive theorists emphasize the role of social inequality in shaping beliefs of personal mastery (Kraus et al., 2012). However, research on entrepreneurial self-efficacy (ESE) focusses mainly on the role of institutional and cultural environments rather than considering social structures (Hopp & Stephan, 2012; Luthans & Ibrayeva, 2006; Newman et al., 2019).

Therefore, we extend Bandura's social cognitive theory to the realm of social inequality and entrepreneurship to study how ESE is affected by the dynamics of positions in social structures. To this end, we adopt a nonessentialist perspective that allows us to consider how shaping environments (i.e. through their selection and creation) influence the structural perspective of imposed environments on the relationship between social inequality and entrepreneurship. In doing so, we aim to enhance the theory on entrepreneurial cognition by

showing how initially imposed environments support structural determinism, whereas the selection and creation of environments implies human agency as the driving mechanism in the relationship between social inequality and entrepreneurship.

2.2 Theory

2.2.1 Entrepreneurial self-efficacy in social cognitive theory

In their article on synthesizing prevalent theories on human agency, Emirbayer and Mische (1998, p. 963) conceptualize it as “a temporally embedded process of social engagement, informed by the past (in its habitual aspect), but also oriented toward the future (as a capacity to imagine alternative possibilities) and toward the present (as a capacity to contextualize past habits and future projects within the contingencies of the moment).” Bandura's (1986) social cognitive theory proposes a triadic relationship among the environment, person, and actions constituting human agency. Although the social cognitive theory acknowledges the effects of environmental cues on cognitive processes, it differs from the structuralist perspective by stating that human agents have the leeway to alter their environments. In this manner, the social cognitive theory explains how personal agency and social structure “function interdependently rather than as disembodied entities” (Bandura, 2012, p. 15). Furthermore, the social cognitive theory proposes that “the exercise of personal agency over the direction of one’s life takes varies depending on the nature and modifiability of the environment,” where the environment is represented in three forms (Bandura, 1997, p. 163): The *imposed environment* refers to a sociostructural environment that exists independent of decisions and intentional actions and is, therefore, difficult to control or alter; *selected environments* are characterized by their potential to be activated through decisions and behaviors; and *created environments* do not exist before they are constructed through acts of human agency. A central role in how humans interact with environments according to the social cognitive theory is played by their perceived self-efficacy, namely their “beliefs about their capabilities to exercise control over events that affect their lives” (Bandura, 1989, p. 1175). Self-efficacy beliefs are crucial in human functioning because they inform decisions through motivation. Threats of not being in control of mastering a task lead to avoidance or reduced performance, while stronger self-efficacy beliefs drive engagement and success (Bandura, 2012).

Human agency, for which self-efficacy beliefs constitute the key mechanism, is central to the study of entrepreneurship (Frese, 2009). Drawing on its origin in the social cognitive theory, research on ESE focusses mainly on 1) the antecedents in personal mastery, social persuasion, and vicarious role modeling (Bandura, 1997) and 2) entrepreneurial intention and

behavior (Ajzen, 1991) as consequences of ESE (see review on ESE: Newman et al., 2019). Prior research on the role of the environment in shaping individual ESE focuses on environmental dynamism and hostility at the firm-level (Hmieleski & Baron, 2009; Hopp & Stephan, 2012; Luthans & Ibrayeva, 2006). For instance, by applying a sociocognitive perspective, Hmieleski and Baron (2009) find that environmental dynamism in an industry affects the relationship between entrepreneurs' optimism and their venture's performance. In the same vein, Luthans and Ibrayeva (2006) argue that environmental hostility provides more chances to experience ESE because the process of overcoming threats to the firm might sustainably alter self-efficacy beliefs. In a rare attempt, Hopp and Stephan (2012) examine the effects of cultural and performance norms in social communities as relevant environmental influences on an individual's ESE. More recent research on the perceived belonging to social groups informs how individuals' social embeddedness affects their ESE (Brändle et al., 2018; Hand et al., 2020).

However, the examination of social environments and individuals' positions in them, specifically social inequality and status as relevant sociocultural environments that form an individual's cognition, has largely been neglected in ESE research.

2.2.2 Social status and cognition—an evidential overview

Societies are stratified through hierarchies, in which some groups experience and exercise superiority over others (Pratto et al., 2006). The positions in such social hierarchies are mainly based on different resource endowments (social, human, and cultural capital; Bourdieu, 1984), which are apparent from individuals' levels of education, jobs, and income (Adler et al., 2000). In addition to the objective form of socioeconomic status (SES), perceptions of social class, namely the comparison of one's own rank vis à vis the rank of others, shape individuals' perceived class environments (Kraus et al., 2011). Therewith, "social class is not simply a trait along which individuals vary, but is instead a social context that individuals inhabit in enduring and pervasive ways over time" (Kraus et al., 2012, p. 547).

Social class environments decisively influence how people think, feel, and act (Hackman et al., 2010; Hackman & Farah, 2009). There is extensive evidence that social class environments shape how individuals interpret and respond to situations. For instance, environments characterized by resource scarcity absorb cognitive capacities and lead people to make relatively poor economic decisions (Mani et al., 2013). In such environments, stress levels and affective states turn into short-sighted and risk-averse decisions, eventually perpetuating

people's economically disadvantaged positions (Frankenhuis et al., 2016; Griskevicius et al., 2011b; Haushofer & Fehr, 2014).

A child's socioeconomic family background is an imposed environment because individuals are simply born into different contexts without prior agency to alter early circumstances. Childhood social class, thereby, has a decisive influence on how people make decisions later in life. Beginning in childhood, individuals respond to situations differently based on their parents' socioeconomic status. For instance, controlling for the most common psychological traits and preferences, a representative sample of 14-year pupils in Norway shows significant differences in their willingness to compete depending on their parents' social class backgrounds (Almås et al., 2016). That is, male pupils from lower social class backgrounds are less competitive compared to their counterparts from more privileged families. In this context, children's different socializations pave the way for their later career trajectories (Barling & Weatherhead, 2016; Koppman, 2016). As a result, cognitive styles and leadership behaviors vary among employees within organizations depending on the employees' social class origins (Martin et al., 2016). Furthermore, early childhood environments shape the propensity to take risks later in life (Mittal & Griskevicius, 2014). This longitudinal effect holds even when examining the effect of CEOs' perceived social class origins on their firms' risk-aversion (Kish-Gephart & Campbell, 2015). CEOs stick to these cognitive styles despite climbing up the social ladder. This is due the appropriation and imprinting of cognitive styles during sensitive periods in time, that is, during their childhood (Marquis & Tilcsik, 2013). However, social class transitions endow individuals with an enhanced cultural toolset to interpret situational cues (Martin & Côté, 2019). In this vein, there are indications that early class imprints shape cognitive functioning in the long run, but the activation of such imprints depends on more recent situational contexts (Mittal et al., 2015).

2.2.3 A social status theory of entrepreneurial self-efficacy

In their social cognitive theory of social status, Kraus et al. (2012) conceptualize how lower vs. higher social class individuals differ in their cognitive styles. These disparities occur because of differences in perceptions of independence. Individuals in lower social classes experience environmental restrictions. That is, due to their minor rank in society, they lack the power to achieve goals without heavily relying on the external environment. Their actions are structurally dependent on external factors. However, individuals from higher social classes experience an abundance of resources and higher levels of power, which allow for relatively high levels of behavioral control with a focus on the self rather than the environment. Consequently,

individuals interpret situations differently. For instance, individuals from lower (vs. higher) social classes perceive lower (vs. higher) personal mastery and rely on others (vs. the self). Therefore, on the one hand, individuals growing up in harsh and underprivileged environments learn that their capability of mastering tasks is restricted by external factors and their achievements depends on others, that is, they display *contextualist social cognitive tendencies* (Kraus et al., 2012). On the other hand, those growing up in better-off and resource-rich environments learn that they are in control of situations and their personal mastery is independent of the help or benevolence of others, that is, they display *solipsistic social cognitive tendencies* (Kraus et al., 2012).

These appropriated cognitive styles develop to effectively enable individuals to adapt to social environments (Frankenhuis et al., 2016; Mittal & Griskevicius, 2014). Thus, these styles can be considered “contextually appropriate responses” to individuals’ situational contexts and are rational from an evolutionary theory perspective, (Pepper & Nettle, 2017, p. 7). However, cognitive imprinting implies that once appropriated in childhood, these cognitive tendencies persist over time and despite environmental changes in adulthood (Marquis & Tilcsik, 2013; Mittal et al., 2015).

As Bandura (2001, p. 15) concludes, “In social cognitive theory, sociostructural factors operate through psychological mechanisms of the self-system to produce behavioral effects. Thus, for example, economic conditions, socioeconomic status, and educational and family structures affect behavior largely through their impact on people’s aspirations, sense of efficacy, personal standards, affective states, and other self-regulatory influences [...]”.

An *imposed environment* such as the social class environment experienced in childhood, thus, functions as a social structure in which individuals learn cognitive styles to interpret and respond appropriately to situational cues. Based on whether the environment is characterized by scarcity or abundance, it strengthens (or hampers) lasting beliefs in personal mastery and independence. Therefore, the imposed environment likely influences whether an individual perceives self-efficacy in various tasks later in life (Kraus et al., 2009; Stephens et al., 2012; Taylor & Seeman, 1999).

We expect that social class backgrounds affect not only individuals’ general self-efficacy but also specifically an individual’s belief of being successful as entrepreneur. For instance, entrepreneurship largely builds upon an agentic narrative of the disruptive power of individuals (Schumpeter, 1934). That is, some but not other individuals are willing and capable of bearing the uncertainty associated with entrepreneurial action (Knight, 1921; McMullen & Shepherd, 2006). Beliefs in success as an entrepreneur, thus, often imply a hubris in which the

“founders are aware that most ventures fail, but believe that they can beat the odds of failure” (Hayward et al., 2006, p. 161). Such pronounced beliefs in personal mastery (i.e., solipsistic cognitive tendencies) are in line with self-perceptions of individuals from more privileged positions. Individuals that adapt to constrained environments, on the downside, perceive lower agency (i.e., contextualist social cognitive tendencies) in uncertain situations (Mittal & Griskevicius, 2014).

Against this background, we expect that the presented arguments for the effects of social class environments on individuals’ self-efficacy beliefs in the social cognitive theory are especially true for the relationship between early social class environments and individuals’ later perceptions of ESE.

H1: The higher the individuals’ subjective socioeconomic status in childhood, the stronger is their perceived entrepreneurial self-efficacy in adulthood.

From the structuralist perspective, each environment that an individual enters is, in some way, an imposed environment. It is the consequence of prior exposure to another environment. Bandura's (1986) social cognitive theory, however, takes a more agentic approach. There is a reciprocal relationship among the person, their behavior, and the environment. That is, the model of human agency implies that individuals have the potential to select their environments. According to the social cognitive theory, “[...] the environment is only a potentiality that does not come into being unless selected and activated” (Bandura, 2012, p. 12). Accordingly, individuals, can select existing environments and alter their social context. A prominent example of a *selected environment* is the choice and pursuit of a career development path (Lent et al., 1994). Thereby, self-efficacy forms the decision to engage in a career development activity (e.g., educational training), which, depending on the perceived level of performance attainment, again alters career-specific self-efficacy beliefs (Lent et al., 1994). However, selecting new environments can also decrease self-efficacy when the perceived performance attainment is weak. Thus, with regard to selected environments, Bandura (1997, p. 163) concludes that “under the same potential environment, some people take advantage of the opportunities it provides and its rewarding aspects; others get themselves enmeshed mainly in its punishing and debilitating aspects.” Therefore, selected environments can either ameliorate or enhance class-based differences.

Research on social class backgrounds in academic environments highlights this aspect. Although through their entry into academic institutions, individuals from lower social class origins access new environments that differ from their imposed childhood environments, these

new environments can have detrimental effects on their life trajectories (Stephens et al., 2015). One of the most stable relationships in this regard is the influence of imposed social class environments on academic achievement (Berkowitz et al., 2017; Sirin, 2005; Walpole, 2003; White, 1982). Individuals from lower social classes struggle with academic environments as they feel that they do not belong there (Reay, 2018; Stephens et al., 2015), are challenged by stereotypical and incongruent perceptions of self (Croizet & Claire, 1998; Johnson et al., 2011), and experience negative responses from others (Gray et al., 2018; Rheinschmidt & Mendoza-Denton, 2014).

Because individuals experience their self through social reactions and comparisons, new environments can strengthen social class differences (Bandura, 1986, p. 26). For instance, Goudeau and Croizet (2017) show based on a classroom experiment that visible performance differences more likely lead to unfair social comparisons. That is, students are unaware of their structural disadvantages that hamper their success in academic settings. These disadvantages mainly stem from an incongruity of values and standards in their present educational contexts (e.g., the use of language) compared to those in their social class origins (Bourdieu & Passeron, 1977). If individuals from lower social classes are unaware of their different starting conditions, performance differences relative to their peers lead to reduced perceptions of personal mastery and, by extension, weaker beliefs of self-efficacy (Goudeau & Croizet, 2017; Smeding et al., 2013; Stephens et al., 2014). Therefore, when the norms in educational contexts fit better (vs. less) with the sociocultural norms of higher (vs. lower) social class origins, social inequality can be reproduced or even enhanced (Bourdieu & Passeron, 1977).

Thus, we expect educational interventions for entrepreneurship to more likely strengthen ESE for higher vs. lower social class individuals for three reasons. These are 1) a sociocultural match/mismatch between social class origins and the dominant narrative of the independent entrepreneur, 2) competitive stance in entrepreneurship interventions, and 3) inherent demand for openness to experience in entrepreneurship interventions. These reasons generate perceived and actual achievement differences that lead to different levels of ESE depending on the students' social class backgrounds.

First, a cultural norm prevalent in academic settings is independence (Stephens et al., 2012). Models of independence suggest individuals' agency to alter environments and act freely, whereas the idea of interdependence stresses the need to rely on others. The cognitive tendencies associated with social class origins specifically differ in their focus on the context vs. the self (Kraus et al., 2012). In this vein, the cultural norms of independence in higher

education institutions (HEIs) amplify class-based disadvantages. This affects students' perceived and actual academic achievements (Stephens et al., 2014).

Entrepreneurship is based on an agentic view of the self. In the theory of economic development, Schumpeter stresses that entrepreneurial opportunities are given, but only the individuals with beliefs in their agentic self, having “the dream and the will to found a private kingdom,” are able to exploit them (Schumpeter, 1934, pp. 91–92). Since then, entrepreneurship theory has highlighted the central role of the agent in discovering and creating opportunities (Davidsson, 2015; Shane & Venkataraman, 2000). That is, individuals are the agents for discovering and creating entrepreneurial opportunities. The central role of the agentic self in entrepreneurship (Rauch & Frese, 2007) is transmitted through stories of successful entrepreneurs who withstand environmental cues (Lounsbury & Glynn, 2001; McMullen, 2017). Thus, the cultural narrative of the entrepreneur likely strengthens the perceived achievements of students from higher social classes (with cognitive tendencies toward the self), but it hampers the perceptions of personal mastery of students from lower social class environments (with cognitive tendencies toward others).

Second, in entrepreneurship education, competitive pedagogical methods are becoming increasingly popular (Cooper et al., 2004). For instance, such methods often involve business plan and pitching competitions, which enable comparisons in achievement. Therefore, we expect that entrepreneurship education amplifies cultural differences and their consequences for perceived and actual achievement among participants (Goudeau & Croizet, 2017). Different levels of competitive orientations between individuals from higher and lower socioeconomic backgrounds might reinforce this situation (Almås et al., 2016). This affects students' self-efficacy beliefs because students from higher social classes are expected to more likely have experienced achievement through their sociocultural advantages, whereas perceptions of achievement for students from lower social classes are hampered (Stephens et al., 2015, 2014, 2012).

Third, entrepreneurship is inherently connected to the discovery and creation of opportunities (Alvarez & Barney, 2007; Shane & Venkataraman, 2000) that represent “new combinations” (Schumpeter, 1934). Innovation as an entrepreneurial firm's “tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes” is a central element of the entrepreneurial process (Lumpkin & Dess, 1996, p. 142). Consequently, to be able to “explore new or novel ideas, use his or her creativity to solve novel problems, and take an innovative approach to products, business methods, or strategies,” entrepreneurs are requested to be open

to new experiences (Zhao & Seibert, 2006, p. 261). Entrepreneurship education interventions reflect these prevalent elements in entrepreneurship theory by teaching and practicing the innovative stance of the entrepreneurial process (e.g. see Gundry et al., 2014).

In their meta-analysis of the effects of parental SES, Ayoub et al. (2018) find the largest effect size ($r = 0.14$) among prevalent personality traits is on individuals' openness to experience. In a separate test with more than two million participants, the authors replicate these results and show that parental SES hardly affects the Big Five personality traits, except individuals' openness to experience. That is, the higher the social class origins, the more likely individuals are to be open to new experiences, and this relationship is stable over time. The favorability of a social environment toward individuals' openness to experience might therefore initiate intra-organizational dynamics that reproduce SES effects (Pitesa & Pillutla, 2019). Based on our prior arguments, we expect entrepreneurship education to increase the gap in ESE among individuals from different social classes.

H2: Educational interventions for entrepreneurship increase the effect of childhood socioeconomic status on adulthood entrepreneurial self-efficacy.

According to the social cognitive theory, individuals can “create social systems that enable them to exercise greater control over their lives” (Bandura, 1997, p. 163). That is, they can create new environments that form their new basis for thoughts, feelings, and actions. For instance, the sociocognitive career theory emphasizes the importance of the interplay between the objective and perceived environments as “how individuals construe the environment and themselves also affords the potential for personal agency” (Lent et al., 2000). Responses to objective structural barriers can, thus, introduce new subjective environments. When individuals perceive social mobility and transition through social classes, they partly grow out their initial environment and find themselves in a *created environment* that they have built (Martin & Côté, 2019).

Essentialist beliefs incorporating that class categories are biologically or genetically determined and cannot be changed hamper the agency beliefs of those in structurally weak positions (Tan & Kraus, 2015). Individuals from lower social classes with nonessentialist beliefs show no difference in self-confidence compared to higher social class individuals, whereas lower social class individuals with essentialist beliefs are considerably more self-conscious (Tan & Kraus, 2015). The perception of having climbed up the social ladder represents a nonessentialist world view in which class is not fixed but can be altered.

Individuals in the same objective environment can, thus, experience alternative perceptions of their individual positions in a social hierarchy. For instance, students in HEIs might objectively be in a similar social position as they receive comparable educational degrees. However, entering a HEI is likely to have different effects on individuals' perceived social mobility for two reasons. First, dependent on their prior social positions, the new environment can provide a subjective upward or downward mobility experience. This might be ascribed to perceived losses or gains in the relevant dimensions of social class. For instance, individuals with higher parental SES entering their studies might perceive a decline in their economic capital as they leave their parents' household. Furthermore, because subjective social class is related to a person's rank vis à vis others, social environments that foremost include high-status individuals might relativize status superiority prior to entry (e.g., elite universities - Johnson et al., (2011). Second, individuals from lower social class origins might not perceive social mobility because they do not feel that they belong to the new environment (Ostrove, 2007). That is, perceptions of inferiority or superiority continue in the new environment owing to perceived barriers and negative social responses (Gray et al., 2018; Stephens et al., 2015).

Based on the arguments of essentialist beliefs enabling individuals to create new environments, we expect perceived social class transitions to be a mastery experience strongly altering beliefs in human agency. Specifically, we expect individuals from lower social classes that perceive to have climbed the social ladder to perceive higher levels of ESE.

H3: Subjective upward mobility in socioeconomic status reverses the effect of childhood economic status on adulthood entrepreneurial self-efficacy.

2.3 Materials and Methods

We test our hypotheses in a representative sample of individuals at HEIs in Germany. We selected this sample for several reasons: 1) Individuals are in a transition phase from being embedded in their parents' household to perceiving their own social class; 2) those individuals who enter an HEI despite their lower social class origin are confronted with specific challenges induced by the new environment; 3) given that all HEI students gain the same educational title, and educational backgrounds are often representative of an individual's social class (e.g. see Jonassaint et al., 2011), their objective social class is expected to be aligned. Thus, the context allows us to uniquely study how childhood social structures alter cognitive perceptions of the self and how individuals' selection of new environments and their beliefs of mobility influence their self-efficacy beliefs.

2.3.1 Context

We situate our research in the context of the German higher education system. This system consists of 397 state-accredited public and private HEIs with approximately 2.8 million students enrolled (German Rectors' Conference, 2020). The system is primarily divided in research-oriented universities with the (almost) exclusive right to award doctoral degrees and professional-practice-oriented universities of applied sciences. The comparatively low scores of German culture with respect to power distance (Hofstede et al., 2010) would suggest that social class (origins) only mildly affect the educational sector. However, this is not the case. Even at the level of entry to the higher education system, social closure effects occur; for instance, higher education can be substituted with entry into the vocational education and training (VET) system. Obviously, the VET system is world-class and has its merits. However, it has been criticized “for channeling working-class children into apprenticeships and ‘diverting’ them from entering higher education” (Protsch & Solga, 2016), thus hindering many individuals from capitalizing on their university entrance qualifications. Even after this initial hurdle is crossed, social closure effects persist. For instance, since the 1950s, the German higher education system has seen a substantial rise in the number of students, and the composition of the student body has changed to more closely reflect the social background of the overall population. However, the social class origins of postgraduate students, especially those of German professors, still largely correspond to the social class origins prevalent in the 1950s (Blome et al., 2019), indicating that success in Germany’s higher education system is still extremely dependent on social class origins. Against this background, we measure the effects of entrepreneurship education in the light of social class origins.

2.3.2 Data collection

In a pre-test, we investigated the connection between social class and the relevant entrepreneurial concepts through an in-class survey of 107 undergraduate students at our HEI, which gave us the confidence to commission an online panel provider to build a representative sample of HEI students in Germany. Subsequently, we collected data at the start of 2019 through a nationwide personalized online survey administered to German higher education students to establish a representative picture of the German student population. A total of 1,224 students from public and private HEIs in all German federal states and from various fields of study completed the questionnaire and were financially compensated by a private panel provider for their participation. Based on quotas of the German Federal Statistical Office with respect to gender, location in German federal states, types of HEIs, and funding, we drew a

representative sample of students from German HEIs. After applying plausibility checks, the final sample comprises 700 cases, and it constitutes a representative sample of the German student population.

Table 2-1 lists the descriptive statistics of the sample. The participating students are distributed across HEIs from all sixteen German federal states in line with what is known about the general population of German students in HEIs (DeStatis, 2019). Furthermore, the distribution of students' enrollment in universities of applied sciences vs. research-oriented universities, public vs. private universities, and their gender follows the most recent representative quotas stipulated by the German Federal Statistical Office (DeStatis, 2019). The participants represent all subject groups, with most of them being enrolled in law, business, and social sciences (30.3%), engineering sciences (17.0%), mathematics and natural sciences (16%), and humanities (13.3%). Again, these numbers are largely comparable to the general population of German HEI students (DeStatis, 2019).

Table 2-1: Descriptive statistics of the sample.

	N	%		N	%
Federal State			Funding institution		
North-Rhine Westphalia	191	27.3	Public	624	89.1
Bavaria	97	13.9	Private	50	7.1
Baden-Wuerttemberg	88	12.6	Other	26	3.7
Hesse	63	9.0	Gender		
Lower Saxony	52	7.4	Male	361	51.6
Berlin	47	6.7	Female	339	48.4
Rhineland-Palatinate	30	4.3	Study progress		
Saxony	27	3.9	Bachelor	490	70.0
Hamburg	26	3.7	Master	120	17.1
Schleswig-Holstein	16	2.3	Other (PhD/MBA)	90	12.9
Saxony-Anhalt	13	1.9	Field of study groups		
Thuringia	13	1.9	Agricultural and food sciences	20	2.9
Brandenburg	12	1.7	Humanities	93	13.3
Mecklenburg Western Pomerania	9	1.3	Medicine and health sciences	42	6.0
Bremen	9	1.3	Engineering sciences	119	17.0
Saarland	7	1.0	Art studies	21	3.0
Type of institution			Mathematics and natural sciences	112	16.0
University	436	62.3	Law, business, and social sciences	212	30.3
University of applied sciences	264	37.7	Sport sciences	16	2.3
			Other	65	9.3

2.3.3 Measures

The questionnaire items were translated from English to German and were checked through back-translation by a researcher not involved in the study (Brislin, 1970) to ensure the

measures were appropriate in the German context. Additionally, all of the items were measured on a 7-point Likert scale, and constructs were deployed based on computations of the mean values of the corresponding items.

The items and the respective constructs (including the latent variables used only in the robustness and method variance checks) are listed in the Appendix. Table 2-2 lists the means, standard deviations (SDs), Cronbach's alphas, and two-tailed Pearson correlations of all the included variables. The correlations are not excessively high, and the values of the variance inflation factors are smaller than 1.2, meaning that they are below all thresholds (Neter et al., 1996), indicating discriminate constructs with no multicollinearity issues.

Independent variable

The *childhood social class environment* was measured based on the scale devised by Griskevicius et al. (2011a). Three items, namely "*My family usually had enough money for things when I was growing up,*" "*I grew up in a relatively wealthy neighborhood,*" and "*I felt relatively wealthy compared to the other kids in my school,*" query respondents about their perceived material conditions during childhood. This is one of the few acknowledged scales for measuring an individual's material conditions during their childhood (Côté et al., 2011, p. 63) and has been used specifically to investigate how perceptions of environmental conditions influence later cognitive tendencies (Griskevicius et al., 2011b). Other subjective measures, such as the most prominent 10-rung ladder (Adler et al., 2000) or positions in a social class hierarchy (Jackman & Jackman, 1973), focus on rank-order aspects rather than perceptions of the class environment. Subjective perceptions of social class are closely related to objective measures but are more relevant to individuals' cognition (Adler et al., 2000).

To check the validity of the subjective measure, we drew on objective measures of social class by asking the participants for their parents' educational backgrounds, family income, and jobs prestige. The measurement of these dimensions represents the most established way of assessing individuals' objective social class (Côté, 2011; Loignon & Woehr, 2018). Therefore, we used the operationalization from Adler et al. (2000) and built four continuous categories for education (from high school degree to higher degrees including doctorate and law degrees), three continuous categories for occupational prestige (from blue collar or service to professional or managerial), and nine continuous categories for annual family income (from under 20,000€ to higher than 160,000€). We followed the suggestion of Davis and Robinson (1988) that individuals identify with the highest levels of these dimensions in a household.

Table 2-2 : Means, standard deviations (SD), Cronbach's alphas (CA), and correlations.

Variable	Mean	SD	CA	1.	2.	3.	4.	5.	6.	7.	8.
1. Entrepreneurial self-efficacy	4.259	1.121	.861	1.000							
2. Social class in childhood	4.160	1.330	.780	.103**	1.000						
3. Gender	0.484	0.500	-/-	-0.050	-.103**	1.000					
4. Migration background	0.234	0.424	-/-	.153**	-.119**	0.065	1.000				
5. Nascent or active student entrepreneurs	0.130	0.337	-/-	.288**	0.047	-.145**	.077*	1.000			
6. Entrepreneurial experience	0.193	0.395	-/-	.253**	.111**	-.104**	.114**	.252**	1.000		
7. Entrepreneurship education	0.309	0.462	-/-	.218**	.076*	-.090*	.120**	.156**	.301**	1.000	
8. Upward mobility	0.436	0.496	-/-	0.049	-.329**	-0.010	.113**	0.055	0.028	0.034	1.000

*** Correlation is significant at the 0.001 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed). Pearson product-moment correlation coefficients, and point-biserial correlation coefficients where appropriate. N = 700.

Therefore, we calculated educational background and job prestige based on the highest manifestation of one of the parents. Furthermore, we standardized the measures to combine them in a compound measure of objective social class (see Adler et al., 2000). The Pearson correlation coefficients show that the measure of subjective social class environment is strongly tied to the objective measures of an individual's social class (0.481, $p < 0.01$, 2-tailed). Owing to the focus of the subjective childhood social class measure on perceived material conditions (Griskevicius et al., 2011a, 2011b), this measure shows the closest association with childhood family income (0.461, $p < 0.01$, 2-tailed).

Dependent variable

Bandura (1986) proposes a task-specific measure instead of general measures of self-efficacy. Against the background of our sample, we measured ESE in line with the 4-item scale proposed Zhao et al. (2005). To cover all stages of the entrepreneurial process, we included additional items from missing stages (Mcgee et al., 2009). Specifically, we added "Leadership and communication skills" (Liñán, 2008), "Networking skills and making professional contacts," (Liñán, 2008) and "Managing a small business" (Kickul et al., 2009). However, we provided robustness checks, including analyses with the original scale from Zhao et al. (2005). In total, seven items capture the respondents' perceived capability in different stages of the entrepreneurial process. Our measure based on Zhao et al. (2005) converges on the most popular ESE measure proposed by Chen et al., (1998) (see also Newman et al., 2019). However, Chen et al. (1998) examines differences between entrepreneurs and managers, whereas Zhao et al. (2005) investigate ESE among students in an HEI context, which applies to the context of our study.

We asked whether the respondents participated in an entrepreneurship course during their studies. If they did, we coded the respondents' *exposure to educational interventions* as one and zero otherwise. As a follow-up question and as a further robustness check, we asked for the respondents' achievements in the entrepreneurship programs they attended. This variable covers the extent to which individuals perceived that the courses at the university enhanced their entrepreneurial understanding and is based on five items from Souitaris et al. (2007). As expected, the program learning correlates strongly (0.411, $p < 0.01$, 2-tailed) with participation.

The respondents were asked to choose a category for their socioeconomic situation in their childhood (vs. current) based on five categories, namely "lower class," "lower-middle class," "middle class," "upper-middle class," and "upper class," which represent a rank-based measure

of social class devised by Jackman and Jackman (1973) (also see the application by Kish-Gephart & Campbell, 2015). Then, we calculated the difference between perceptions of rank in childhood and current social class perceptions. If the respondents perceived that they have moved at least one category (e.g., from “lower-middle class” in childhood to “middle class” currently), we coded them as *perceived upward mobility* (=1) and no upward mobility otherwise (=0).

Again, we checked how upward mobility was related to objective social class. As expected, it was negatively correlated (-0.439 , $p < 0.01$, 2-tailed) because those from lower social classes were more likely to perceive social class mobility when entering HEI environments.

Gender is used as a control variable in this study because prior research shows differences in ESE between men and women (Wilson et al., 2007). Additionally, the model includes the respondents’ *migration background* as a dichotomous control variable because prior research has demonstrated that entrepreneurial activity differs between migrants and nationals (Kontos, 2003). Prior or current entrepreneurial experiences might control for lived experiences, which could lead to higher ESE and is, thus, included in the following analysis: 1) student entrepreneurs measures whether the participants are currently *nascent or active entrepreneurs*, and 2) *entrepreneurial experience* asks the participants collected further entrepreneurial experiences in the past (Obschonka et al., 2010). Finally, the model controls for the respondents’ *participation in an entrepreneurship education* course as part of their studies to avoid self-selection bias in their entrepreneurial cognition (Rideout & Gray, 2013).

Data quality tests

We employed Confirmatory Factor Analysis (CFA) to further investigate construct and discriminant validity. By implementing our three latent variables in a structural model, we obtained acceptable values of model fit ($X^2 = 636.293$; $df = 87$; $GFI = 0.88$; $TLI = 0.87$; $CFI = 0.90$; $RMSEA = 0.095$). All factor loadings are significant and higher than 0.51. The factor correlations are below 0.55.

To counter common method variance issues, we applied procedural remedies in our survey. First, to reduce social desirability bias, we ensured the participants’ anonymity through our panel provider, who functioned as an intermediary between us and the participants and handled initial contact and payment. Second, to counter further item characteristic and context effects, we shuffled the scale format and type of questions and situated our three latent variables in different parts of the survey.

Furthermore, we implemented several statistical techniques to evaluate common method variance post-hoc (Podsakoff et al., 2012, 2003). First, we applied Harman's single factor test, forcing all of the items of our three latent factors to extract only one factor in an unrotated solution. The single factor explains 37.46% of the variance. Second, we directed from a single latent factor to all of our items in the structural model. The model exhibited a poor fit ($X^2 = 2248.056$; $df = 90$; $GFI = 0.62$; $TLI = 0.52$; $CFI = 0.59$; $RMSEA = 0.185$), possibly indicating that Common Method Bias (CMB) is of minor relevance in our model (Malhotra et al., 2006). Finally, we applied the comprehensive CFA marker technique based on Williams et al. (2010) to assess the variance accorded to our method. We used the 4-item latent factor "Prosocial Motivation" (Cronbach's Alpha (CA) = 0.91) proposed by Grant (2008) as a method marker variable owing to its theoretical independence from the substantive factors, its tendency to attract social desirability bias, and its same method characteristics as the other latent variables. The items query for the participants' motivation on the job and include "*Because I want to have a positive impact on others*" and "*Because I want to help others through my work.*" In line with the marker technique, we ran several models to assess if and how our model is affected by common method variance. Table 2-3 summarizes statistical comparisons between these models. A comparison of the baseline model with the constrained model (all method marker variable loadings constrained to load on the items of the substantive latent factors equally) revealed a significant chi-square difference (delta chi-square = 52.132; $p < 0.05$), indicating that the marker variable might influence the substantive latent factors. To test whether the marker factor influences the substantive latent factors equally, we compared the constrained model (Model-C) with the unconstrained model (Model-U), in which the loadings of the marker variable could be loaded differently on the substantive latent factors. The chi-square different test indicates a significant result (36.279, $p < 0.05$), suggesting that the marker variable influences the substantive indicators unequally. The standardized factor loadings for the unconstrained model are presented in the Appendix. The marker variable has no significant effects on SC and EL, but four marker variable factor loadings on ESE indicators are significant with values ranging from 0.14 to 0.23. Despite the influence of the method marker variables, all substantive indicators load significantly on their proposed factors with values between 0.46 and 0.86. To assess whether the marker variable affects correlations between substantive factors, we compared the unconstrained model with a restricted model (factor correlations between substantive factors were set as the values of the baseline model). The chi-square difference test was not significant. Thus, we can expect the method factor to not affect the correlations between our substantive latent factors. In an additional step, we decomposed the effects of the

substantive variables and the method marker variables to learn more about the magnitude and source of method variance. The reliability measures for all of the substantive factors are summarized in Table 2-4. They indicate that the method factor accounted for 0.41%, 5.09%, and 1.04% of the reliability of SC, ESE, and EL, respectively. In conclusion, we can summarize that while there is a small method effect, it does not affect the proposed relationships in our model.

Table 2-3: Chi-square, goodness-of-fit values, and model comparison tests.

Model	χ^2	df	CFI
CFA	757.589	146	0.92
Baseline	992.626	153	0.89
Method-C	940.494	152	0.89
Method-U	904.215	138	0.90
Method-R	904.216	141	0.90
Chi-Square Model Comparison Tests			
Delta Models	Delta χ^2	Delta df	χ^2 Critical Value
1. Baseline vs. Method-C	52.132*	1	3.84
2. Method-C vs. Method-U	36.279*	14	23.68
3. Method-U vs. Method-R	0.001	3	7.82

* $p < 0.05$

Table 2-4: Reliability decomposition.

Latent Variable	Reliability Baseline Model	Decomposed Reliability Method-U Model		
	Total Reliability	Substantive Reliability	Method Reliability	% Reliability Marker Variable
Social class in childhood	0.584	0.581	0.002	0.41

Table 2-4: Continued.

Latent Variable	Reliability Baseline Model	Decomposed Reliability Method-U Model		
	Total Reliability	Substantive Reliability	Method Reliability	% Reliability Marker Variable
Entrepreneurial self-efficacy	0.732	0.694	0.037	5.09
Entrepreneurial learning	0.759	0.751	0.008	1.04
Marker variable	0.794			

2.4 Results

To test our baseline hypotheses, we performed hierarchical ordinary least squares regression analysis. To test our proposed moderations, we performed bootstrap analysis.

Our baseline hypotheses are listed in Table 2-5. Among the control variables in model 1, migration background positively predicted ESE, being a nascent or active student entrepreneur was related to stronger ESE beliefs, and collected entrepreneurial experiences fostered perceived ESE. Finally, having participated in an entrepreneurship education program was positively related to the participants' ESE.

Model 2 reports the main effects of perceived social class in childhood on ESE. It is positive and significant ($b = 0.083$, $p < 0.001$). This supports our baseline hypothesis (H1), which states that an imposed childhood social class environment characterized by a degree of resource-richness positively affects ESE cognitive imprints in adulthood.

Table 2-5: Unstandardized ordinary least squares regression coefficients for entrepreneurial self-efficacy.

	Model 1 Control model	Model 2 Main effects	Model 3 Education	Model 4 Mobility	Model 5 Full model
Gender	0.005	0.023	0.023	0.021	0.021
Migration background	0.268**	0.293**	0.287**	0.276**	0.269**
Nascent or active student entrepreneurs	0.743***	0.734***	0.722***	0.745***	0.733***

Table 2-5: Continued.

	Model 1 Control model	Model 2 Main effects	Model 3 Education	Model 4 Mobility	Model 5 Full model
Entrepreneurial experience	0.415***	0.388***	0.376***	0.384***	0.371***
Entrepreneurship education	0.308***	0.294***	-0.390	0.295***	-0.412
Upward mobility	0.053	0.151	0.167	0.873**	0.913**
Main effect					
Social class in childhood		0.083**	0.039	0.117***	0.072+
Moderation					
Social class in childhood × Entrepreneurship education			0.162*		0.167*
Social class in childhood × Upward mobility				-0.216*	-0.223**
Constant	3.914***	3.551***	3.732***	3.407***	3.590***
R squared	0.145	0.153	0.161	0.161	0.169

Note: N = 700. *** p < 0.001, ** p < 0.01, * p < 0.05, + p < 0.1,

The hypothesized interaction effect (H2) of participation in an entrepreneurship education program (selected environment) leading to enhanced cognitive imprints is reported in Model 3, as summarized in Table 2-5. It shows a positive and significant effect ($b = 0.162$, $p < 0.05$), lending support for H2. Furthermore, we calculated the lower and upper bootstrap confidence intervals for the interaction (0.024;0.280), which provided further support for H2. We have illustrated this effect in Figure 2-1.

The figure shows that the effect of social class in childhood on ESE is positive for those who participated in an entrepreneurship education program, whereas the social class cognitive imprint on ESE is still positive but diminished for the individuals who did not attend any entrepreneurship education program. This finding is consistent with our theoretical reasoning that selected environments can activate cognitive imprints.

Model 4 in Table 2-5 examines our hypothesis that perceived upward mobility reverses the positive effect of social class in childhood on adulthood ESE. This model yielded a significant and negative relationship between perceived upward mobility and ESE ($b = -0.216$,

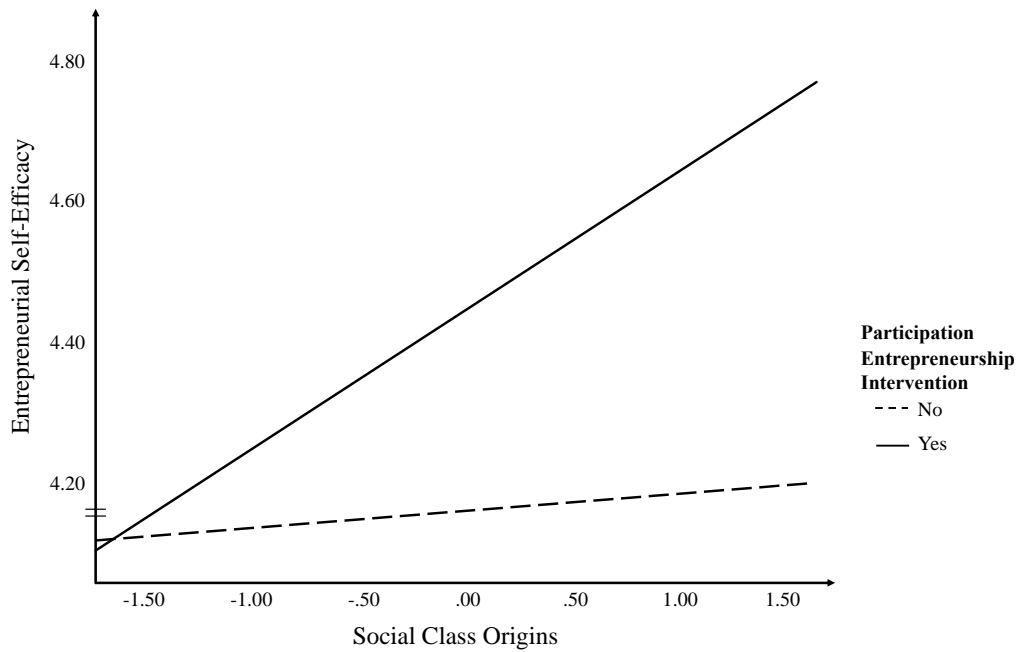


Figure 2-1: Influence of social class origin on entrepreneurial self-efficacy as a function of entrepreneurship education.

$p < 0.05$). The bootstrap analysis performed to identify confidence intervals (-0.383; -0.049) provided further evidence of the moderating effect of upward mobility on the relationship of social class origin on ESE. This supports our claim in H3 that perceived upward mobility weakens the effect of social class in childhood on an individual's ESE. In Figure 2-2, we illustrate this effect.

The figure specifically shows the circumstance in which the perception of upward social mobility strongly enhances ESE beliefs among individuals with lower social class origins. However, not perceiving social mobility enhances individuals' former cognitive imprints on ESE based on their social class origins.

In order to further test face validity of our results, we discussed them with a representative of a student organization that focuses on easing the transition for students from lower social class backgrounds in HEIs ('Arbeiterkind e.V.'). The informant confirmed our concept that cognitive imprints impede one's belief in managing further uncertainty. Furthermore, the sociocultural mismatch between individuals from lower social classes and their perceptions of the narratives of the entrepreneur in entrepreneurship education found approval, which increased our confidence in our results.

Statistically, we tested other measures for the proposed relationship to check its

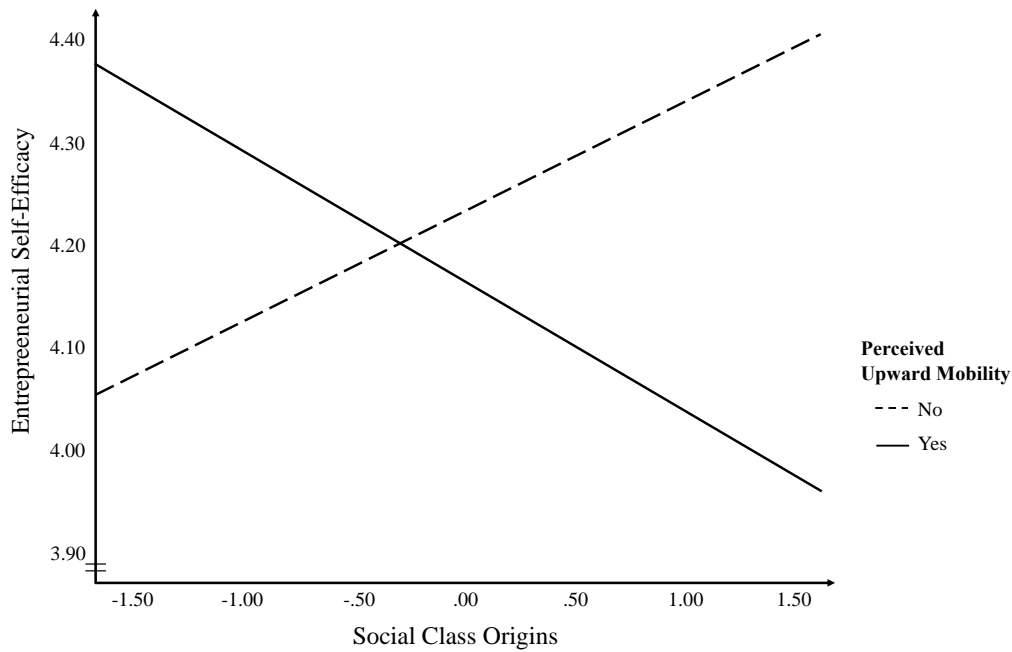


Figure 2-2: Influence of social class origin on entrepreneurial self-efficacy as a function of perceived upward mobility.

robustness. For instance, we tested the original ESE scale proposed by Zhao et al. (2005) and found that all of the hypothesized effects unfolded as in our final model.

Furthermore, we expect that perceptions of the current social class (Griskevicius et al., 2011a) predict ESE beliefs. Our tests indicated that perceptions of current social class strongly predict ESE beliefs ($b = 0.132$, $p < 0.001$). Moreover, both moderators, namely participation in entrepreneurship education (0.173 , $p < 0.01$) and perceived upward mobility (-0.194 , $p < 0.05$), performed as expected. A test of the baseline (H1) with the categorical rank-based social class measure proposed by Jackman and Jackman (1973), indicated that both current (0.389 , $p < 0.001$) and childhood social class (0.336 , $p < 0.001$) yield a positive effect for higher social class perceptions on ESE. However, objective social class origins (with the measure of Adler et al., 2000) did not significantly predict beliefs in ESE. Although the subjective and objective measures are closely tied (see the correlation coefficient in our model), each of them explains additional variance dependent on the context, with subjective measures more likely to predict cognitive outcomes (see Adler et al., 2000). To further test this assumption, we added the objective measure to our baseline regression and found that H1 still holds.

Furthermore, in a separate regression, we tested whether a continuous variable on program learning in entrepreneurship interventions (Souitaris et al., 2007) would yield similar results as our dichotomous variable representing individuals' participation in an

entrepreneurship intervention. The program learning variable shows a similar performance mechanism: the higher the perceived entrepreneurial learning in individuals' studies, the stronger is the effect of social class origins on ESE ($b = 0.056$, $p < 0.01$). Particularly, bootstrapping analysis and Johnson–Neymann analysis reveal that the enhancing effect of social class origins on ESE only turns significant and increases starting from levels of entrepreneurial learning higher than 3.407 (see the Johnson–Neymann graph in the Appendix).

2.5 Discussion

This study provides a new perspective on the interrelation between social inequality and entrepreneurial agency. It investigates the conditions under which social class in childhood imprints entrepreneurial cognition in adulthood. The results show that an imposed environment, such as the social class in childhood, has a lasting effect on an individual's ESE. However, this effect is contingent on the choice and construction of new environments in later life, which can reproduce or diminish the cognitive imprints of the imposed environment.

These results indicate that social inequality affects core cognitive mechanisms in how individuals evaluate their functioning in entrepreneurship. It also highlights how the social cognitive theory reconciles the agentic and structuralist perspectives by considering Bandura's suggestion to not treat the environment as a “monolithic entity” but rather as individuals' imposed, selected, or created contexts that influence thoughts and actions over time. Although prior studies ESE have included the environment as a relevant context influencing cognition, the effects of altering the environment through human agency have remained unexplored. Therefore, we extend Bandura's social cognitive theory to assess how structural inequality (imposed social class in childhood) could be altered through the activation of new environments in young adulthood. For instance, our findings indicate that cognitive imprints can be further enhanced or diminished through new environments. More specifically, the context of entrepreneurship education at HEIs is shown to strengthen the positive relationship between individuals' social class origins and their ESE beliefs.

In this manner, social class environments in childhood influence entrepreneurial agency beliefs in adulthood. Recent studies make substantial progress on how social inequality influences entrepreneurial career choices (Audretsch et al., 2013; Perry-Rivers, 2016; Xavier-Oliveira et al., 2015). Consequently, these studies focus on individuals' current socioeconomic contexts. However, social cognitive theories in general and studies on social class in particular highlight the important role of an individual's early environments as cognitive frames through which the individual interprets situations in adulthood. Not considering one's social class

origins would, therefore, lead to an incomplete understanding of how the psychology of social inequality unfolds in the field of entrepreneurship. For instance, our findings show that individuals' perceptions of their current social class influence their ESE but in different directions depending on whether they have climbed the social ladder. In other words, individuals with equal perceptions of their current social class experience different effects on their ESE based on their social class origins.

The findings of this study in terms of the relationship between social inequality and human agency might, therefore, only be a starting point for an emerging discussion in our field. Management scholars have just recognized the relevance of social inequality in explaining intra-organizational dynamics (Pitesa & Pillutla, 2019) and the effect of employees' social class backgrounds and transitions on their roles and contributions in organizations (Loignon & Woehr, 2018; Martin & Côté, 2019). However, the role of social class in the entrepreneurial context is yet to be explored. With regard to entrepreneurial cognition, the present study attempts to pave the way for further social class research. Against the background of a broad literature on how social class shapes individuals' thinking and, at the same time, the prominent role of cognitive bias in entrepreneurship research (Baron, 1998), further research that combines the research streams is required. For instance, social class research highlights the inherent desire of higher social class individuals to be different from others. In several experiments, Stephens et al. (2007) have demonstrated that individuals from higher social classes are more likely choose the one different looking pen given a choice set of similar pens. Entrepreneurial entry could, therefore, provide a specific opportunity for those individuals to develop a distinct entrepreneurial identity and fulfill their desire to be different (Shepherd & Haynie, 2009). The related narcissism in higher social class individuals (Martin et al., 2016) is a prominent cognitive bias that drives entrepreneurial entry (Navis & Ozbek, 2016). However, how do individuals from lower social class backgrounds find their way into entrepreneurship then? Social class research indicates that people from lower social classes overemphasize risk and excessively prefer short-term rewards (Haushofer & Fehr, 2014). Does that mean that individuals from lower social classes might exclude themselves especially from disruptive entrepreneurship (Packard & Bylund, 2018)?

Our study shows that despite detrimental structural conditions, individuals can, over time, alter the environment that influences their interpretations of entrepreneurial feasibility. More specifically, due to their class transitions, individuals from lower social class origins who are climbing the social ladder can even perceive higher levels of ESE compared to those from higher social class origins. However, we also find that entrepreneurship education at HEIs

might increase the gap in ESE between individuals from different social class origins. This has manifold implications for HEIs and entrepreneurship education. First, HEIs should foster lower social class individuals' perception of successful class transitions. This can be effected through interventions that foster the feeling of belonging (see Walton & Cohen (2011) for such an intervention). Second, entrepreneurship education could reduce perceptions of underachievement or not belonging in two ways: 1) by adjusting narratives of the entrepreneur, including role models and mentors, toward a sociocultural fit that is inclusive for those from lower social class origins and 2) by developing interventions that explain how social class backgrounds might be the reason for different perceptions of feasibility in entrepreneurship education (see Stephens et al. (2014) for a similar intervention).

The limitations of our study provide opportunities for further research. First, future studies can test the mechanisms under which the moderating effects of selected and created environments on the relationship between social class origins and individuals' self-efficacy beliefs work. We show that opting into entrepreneurship interventions enhances the effects of SES on ESE. Our arguments build on the foundational entrepreneurship theories of individuals' independence, competitiveness, and innovativeness, which we assume to be transported in most entrepreneurship interventions. As we investigated a representative sample of a national student population, we are confident that this is true for their entrepreneurship trainings. However, we believe that future studies should investigate how training environments, with, for example, a focus on social aspects (i.e. social entrepreneurship interventions; Howorth et al., 2012), influence the effects of social class origins on an individual's entrepreneurial agency beliefs. Second, future research pertaining to the effects of environments on the relationship between social class origins and ESE should employ a multilevel approach that allows for the investigation of these effects in different environmental layers, for instance, between the immediate, proximal context and the larger, societal context (Lent et al., 2000). Finally, the data used in our study were collected in the German setting, which is a diverse society but is not characterized by extreme differences in social classes. However, as previous sociological research and our study in the entrepreneurial setting show, even relatively equal societies experience the interplay of structural disadvantages and human agency. Future research could analyze the effects of social class origins on entrepreneurial concepts under more extreme conditions, such as in more unequal societies, where individuals' social class origins might be even more likely to impact human functioning (Wilkinson & Pickett, 2009).

2.6 Conclusion

We extend Bandura's social cognitive theory to the realm of social inequality and entrepreneurship to study how imposed, selected, and created environments influence the relationship between structural disadvantages and entrepreneurial agency. Our results shows that entrepreneurial environments can reinforce structural disadvantages, while experienced social class transitions can help overcome and even reverse negative effects of social class origins. The relationship between social class origins and the entrepreneurial process has largely been neglected in prior research. It is time to fill this gap to shed light on inclusiveness in entrepreneurial opportunities.

Appendix

Table 2-6: Measures of latent variables.

Social class in childhood (Griskevicius et al., 2011a)	<i>Please indicate how strongly you agree with the following statements about your childhood.</i>	<i>(1 = strongly disagree, 7 = strongly agree)</i>
	My family usually had enough money for things when I was growing up. (SC1)	
	I grew up in a relatively wealthy neighborhood. (SC2)	
	I felt relatively wealthy compared to the other kids in my school. (SC3)	
Entrepreneurial self-efficacy (Zhao et al., 2005)	<i>Please indicate how capable you feel in performing the following tasks.</i>	<i>(1 = totally incapable, 7 = highly capable)</i>
	Successfully identifying new business opportunities. (ESE1)	
	Creating new products or services. (ESE2)	
	Thinking creatively. (ESE3)	
	Commercializing an idea or new development. (ESE4)	
	Being a leader and communicator. (ESE5)	
	Building a professional network. (ESE6)	
	Managing a small business. (ESE7)	
Program learning (Souitaris et al., 2007)	<i>Please indicate how much you agree with the following statements about your current studies: The courses and seminars I attended...</i>	<i>(1 = strongly disagree, 7 = strongly agree)</i>
	increased my understanding of the attitudes, values, and motivations of entrepreneurs. (PL1)	
	increased my understanding of the actions someone has to take in order to start a business. (PL2)	
	enhanced my practical management skills in order to start a business. (PL3)	
	enhanced my ability to develop networks. (PL4)	

Program learning (Souitaris et al., 2007)	<i>Please indicate how much you agree with the following statements about your current studies: The courses and seminars I attended...</i> enhanced my ability to identify an opportunity. (PL5)	(1 = strongly disagree, 7 = strongly agree)
Prosocial motivation (Grant, 2008)	<i>What motivates you when choosing your career path?</i> I care about benefiting others through my work. (PSM1) I want to help others through my work. (PSM2) I want to have positive impact on others. (PSM3) It is important to me to do good for others through my work. (PSM4)	(1 = strongly disagree, 7 = strongly agree)

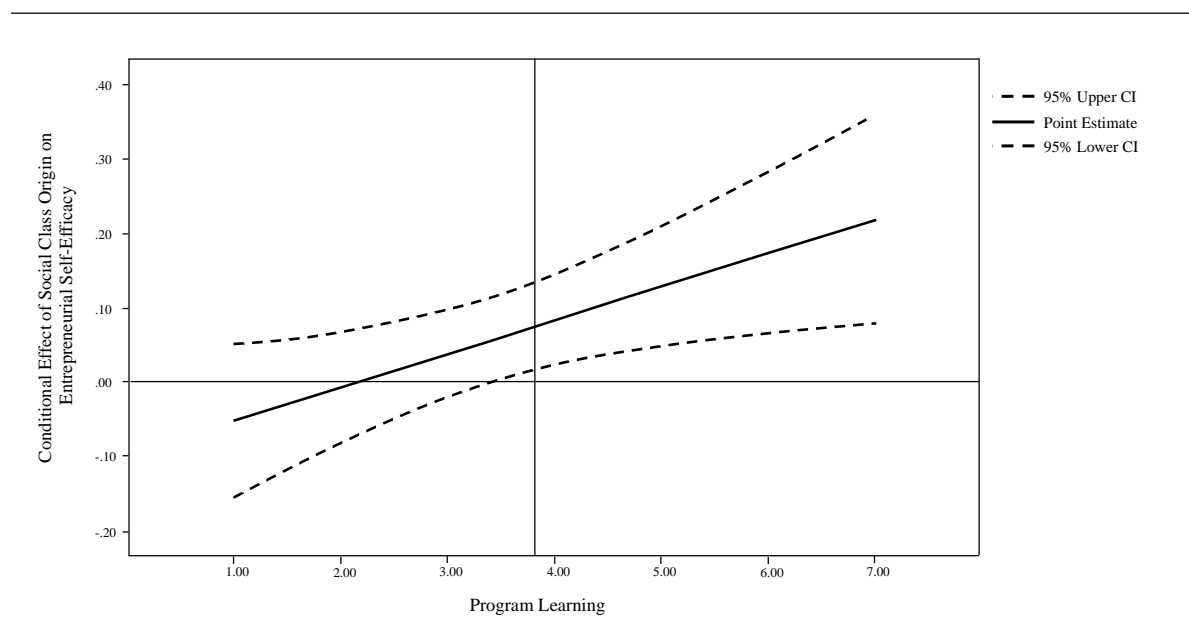
Table 2-7: Method-U model factor loadings: Completely standardized solution.

Item	SC	ESE	EL	Marker Variable
SC1 (v_249)	0.695*			0.032
SC2 (v_250)	0.781*			0.032
SC3 (v_251)	0.729*			0.077
ESE1 (v_51)		0.747*		0.187*
ESE2 (v_52)		0.705*		0.119
ESE3 (v_53)		0.459*		0.225*
ESE4 (v_54)		0.622*		0.147*
ESE5 (v_55)		0.643*		0.137*
ESE6 (v_56)		0.763*		0.129
ESE7 (v_57)		0.691*		0.128
EL1 (v_22)			0.800*	0.080
EL2 (v_23)			0.832*	0.048

Table 2-7: Continued.

Item	SC	ESE	EL	Marker Variable
EL3 (v_24)			0.863*	0.080
EL4 (v_25)			0.705*	0.127
EL5 (v_26)			0.804*	0.076
PSM1 (v_301)				0.685a
PSM2 (v_302)				0.798a
PSM3 (v_303)				0.718a
PSM4 (v_304)				0.781a

Note: Factor loadings taken from the baseline model and held constant through the model comparison are marked with the letter “a.”

**Figure 2-3:** Conditional effect of social class origins on entrepreneurial self-efficacy.

3 Study 2 – Staged Entrepreneurship – The Formation of Hybrid and Spawning Entrepreneurial Career Path Choices ²

Leif Brändle ^{a)}, Andreas Kuckertz ^{a)}

^{a)} University of Hohenheim

Abstract

Most individuals find their way to entrepreneurship through either prior phases of hybrid entrepreneurship—i.e., the combination of self-employment and paid employment—or spawning entrepreneurship—i.e., identifying an entrepreneurial opportunity at work and then leaving the employer to exploit this opportunity through self-employment. However, prior research on the formation of entrepreneurial intention and behavior largely neglects these transitional career perspectives. Drawing on the theory of planned behavior and the social cognitive career theory, our study explains how personal beliefs and social contexts influence transitional career path choices. Results are based on a nationwide survey conducted in Germany, involving 1,003 individuals in a critical career decision phase. The findings indicate that choices for transitional career paths depend on the beliefs of individuals (attitudes, self-efficacy, and subjective norms) and that social class origins predict how—rather than if—individuals intend to transition toward entrepreneurship.

Keywords: career choice; entrepreneurial intention; hybrid entrepreneurship; spawning entrepreneurship; social class.

Declarations of interest: none.

Funding: this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

² Presented at the Academy of Management Annual Conference (2020);
Submitted to the Journal of Small Business Management

3.1 Introduction

Most entrepreneurs apply transitional career paths toward entrepreneurship. They either spawn from employment at established organizations (Elfenbein et al., 2010) or combine wage work with self-employment activities before they finally become self-employed (Folta et al., 2010). A classic question in entrepreneurship research is: Why do individuals become entrepreneurs? The extant literature on entrepreneurial behavior highlights different circumstances under which individuals form the general intention to engage in entrepreneurship (Krueger et al., 2000; Meoli et al., 2020; Schlaegel & Koenig, 2014; Zaremohzzabieh et al., 2019) and turn entrepreneurial intentions into action (Edelman et al., 2016; Gielnik et al., 2014; Kautonen et al., 2015; Kibler et al., 2014; Meoli et al., 2020; Van Gelderen et al., 2015). However, prior research on entrepreneurial intentions largely neglects the transitional career perspective (see Burton et al., 2016; Carroll & Mosakowski, 1987, for calls to focus on careers and transitions). That is, the extant research is largely based on a dichotomous view of entrepreneurial behavior resulting in either being an *entrepreneur* or an *employee* (Burke et al., 2008).

Recently, hybrid entrepreneurship research—research on individuals combining paid employment and self-employment—makes substantive progress in explaining under what conditions individuals are more likely to prefer these hybrid situations (Block & Landgraf, 2016; Pollack et al., 2019; Raffiee & Feng, 2014). More specifically, these studies find that hybrid entrepreneurship, in comparison to full-time entrepreneurship, seems to be an attractive option when switching costs, risks, and uncertainties related to the self-employment activity are relatively high (Folta et al., 2010; Raffiee & Feng, 2014). Furthermore, the transitional career perspective on entrepreneurship yields new perspectives on the conditions under which established organizations spawn entrepreneurs—that is, individuals leaving their employer to create their own ventures (Burton et al., 2016; Dobrev & Barnett, 2005; Sørensen & Sharkey, 2014). For instance, recent research indicates that the more likely the employees are to acquire knowledge and the less likely the established organization is to exploit potential entrepreneurial opportunities, the more likely it is that knowledgeable individuals would spin-out their knowledge by creating a new venture themselves (Elfenbein et al., 2010; Garrett et al., 2017; Habib et al., 2013).

Nevertheless, it remains widely unclear why and whether individuals intend to enter these staged entrepreneurial career paths in the first place. Prior research on the formation of entrepreneurial intention and behavior draws mostly from the theory of planned behavior (TPB;

Krueger et al., 2000), which predicts how personal values and beliefs (such as attitudes, control, and norms) about behavior form the intentions and behaviors of individuals (Ajzen, 1991). The social cognitive career theory (SCCT; Lent & Brown, 2013; Lent et al., 1994, 2000) stresses the reciprocal relationship between contextual and personal drivers and inhibitors for career choices and development (Bandura, 1986). Accordingly, the SCCT explains the socio-contextual conditions under which TPB holds (e.g., see Meoli et al., 2020). Specifically, recent research on transitional entrepreneurship shows that personal and environmental characteristics play an intertwined role in predicting entrepreneurial entry (Garrett et al., 2017), lending confidence to using these theoretical lenses for the transitional career perspective.

Hence, drawing on TPB and SCCT, we ask why individuals enter staged entrepreneurial career pathways. More specifically, we investigate why individuals choose hybrid over spawning entrepreneurial career pathways and compare these with the non-entrepreneurship career path choice. That is, we investigate how elements of the TPB (entrepreneurial attitudes, behavioral control, and subjective norms) affect transitional career path choices. In line with the SCCT, we further analyze the effect of social contexts—more specifically, how the social class origins of individuals influencing their career path choices. In our model, we hypothesize that hybrid career path choices are more likely driven by personal aspirations, control beliefs, and structural advantages, whereas spawning entrepreneurship career choices are more likely driven by a lack of high levels of entrepreneurial aspiration and control as well as positive subjective norms for an entrepreneurial career.

In order to test our hypothesized model on transitional career path intentions, we conducted a nationwide survey, comprising a largely representative sample of 1,003 German students in higher education institutions (HEIs) from all fields of study. The students were asked to report their career aspirations and entrepreneurial activities. In order to draw on the extant literature on staged entrepreneurial careers, we begin our theory section with a systematic review on the hybrid entrepreneurship literature, followed by a review of the extant literature on spawning entrepreneurship. Subsequently, we build and test our hypotheses based on the TPB and SCCT using a multinomial logit model that compares what factors predict hybrid, spawning, and non-entrepreneurial career paths.

Our findings contribute to entrepreneurship theory and practice in the following ways. First, our results show that the vast majority of individuals intends to take transitional career paths through hybrid or spawning entrepreneurship forms, representing boundaryless career paths. This has important implications on how future research might conceptualize entrepreneurial intentions. Second, our findings show that the personal beliefs about

entrepreneurship and the social contexts of individuals influence their career path intentions differently. We indicate that different entrepreneurial career paths, such as hybrid and spawning entrepreneurship, need to be considered in future research on entrepreneurial intentions, behavior, and research about why individuals fail to turn their intentions into behavior—i.e., the intention-behavior gap. Third, by drawing on the SCCT, we show how social contexts (i.e., social class origins) influence how—rather than if—individuals enter into entrepreneurship. This finding echoes the research on social inequality and entrepreneurship by showing how structural disadvantages might shape the paths taken toward entrepreneurship.

3.2 Theory

3.2.1 Hybrid entrepreneurship

Prior research has focused on investigating why individuals choose to become self-employed instead of entering paid employment in established organizations (e.g., see Busenitz & Barney, 1997). The phenomenon of individuals combining paid employment with self-employment has been largely neglected in entrepreneurship research even though it represents a large proportion of the overall entrepreneurial activity (Burke et al., 2008). Folta et al. (2010, p. 254) coin the term *hybrid entrepreneurs* to describe “individuals who engage in self-employment activity while simultaneously holding a primary job in wage work,” leading to further research on how and when individuals combine different career paths. This research stream draws from the literature on moonlighting, which refers to entrepreneurs working full-time during the day and evaluating entrepreneurial opportunities in their free time—e.g., at night (Kimmel & Smith Conway, 2001)—as well as from the literature on part-time entrepreneurship (Petrova, 2012). However, its focus is on how and when individuals enter into, persist in, and transition from hybrid entrepreneurship into full-time self-employment (Folta et al., 2010; Raffiee & Feng, 2014).

Research on hybrid entrepreneurship that followed Folta et al.'s (2010) seminal article has only recently gained traction, with most articles on the topic being published after 2016.³

³ In order to provide an overview of the extant literature in the relatively new research stream on hybrid entrepreneurship, we conduct a systematic literature review (Booth et al., 2005; Tranfield et al., 2003). We use the *Scopus* database and retrieve all articles corresponding to the search string “hybrid entrep*” in titles, abstracts, and keywords. The initial search yielded 30 results. Excluding articles not published in international peer-reviewed journals, as well as articles dealing with hybrid enterprises (i.e., combining ecological and economic goals), leads to a final list of 17 articles. We summarize our review in Table 3-1. The literature review gives us confidence to meaningfully embed our study in the extant literature.

Table 3-1: Systematic literature review on hybrid entrepreneurship.

Authors	Year	Dependent Variable	Independent Variable	Sample	Findings
Kurczewska A., Mackiewicz M., Doryń W., Wawrzyniak D.	2020	Hybrid entry	Skills, knowledge and experience	800 pure and 800 hybrid entrepreneurs in Poland	The likelihood of hybrid entrepreneurship entry increases with management experience and decreases with higher levels of education and self-efficacy.
Pollack J.M., Carr J.C., Michaelis T.L., Marshall D.R.	2019	Persistence for hybrid entrepreneurship	Self-efficacy	28 nascent entrepreneurs in the US observed across twenty weeks	Higher levels of entrepreneurial self-efficacy lead to higher rates of persistence among hybrid entrepreneurs.
Ferreira C.C., Lord Ferguson S., Pitt L.F.	2019	Hybrid entrepreneurship, Transition into full-time self-employment	Passion, product demand	-	Hybrid entrepreneurship for creating enough demand for a transition to full-time entrepreneurship. Passion might also limit growth potentials of hybrid entrepreneurs.
Bögenhold D.	2019	Self-employment	-	-	Entrepreneurship research needs to consider heterogeneity in forms of employment (especially self-employment and hybrid forms of employment).
Dzomonda O., Fatoki O.	2018	Hybrid entry	Desire to supplement income, non-monetary benefits	83 staff members	Main motivations for hybrid entry are the desire to supplement income and non-monetary benefits.

Table 3-1: Continued.

Authors	Year	Dependent Variable	Independent Variable	Sample	Findings
Schulz M., Urbig D., Procher V.	2017	Earnings in the second job	Hybrid entrepreneurs vs. paid employees	47,820 employees (age 18-65) between 1991 through 2008	Second job in self-employment vs. paid employment increases chances of higher earnings in the second vs. the main job.
Bögenhold D., Klinglmair R., Kandutsch F.	2017	Income streams, working hours, workplace, education	Human capital	116 hybrid one-person enterprises in Austria	Human capital leads to higher income from paid work and working shorter hours.
Bögenhold D., Klinglmair A.	2016	Hybrid vs. Full-time entrepreneurs	Socio-demographic characteristics	626 one-person enterprises in Austria	Hybrid solo-entrepreneurs vs. Non-hybrids are more educated, more likely working from home and focus on regional customers. The major income stream for hybrid solo-entrepreneurs is paid work.
Meoli M., Vismara S.	2016	Full-time vs. Hybrid entrepreneurship	Supportive university environment	559 academic spin-offs from 85 italian Universities, 1999-2013	Inadequate university support leads to higher probabilities of academic spin-offs, i.e. transition to full and independent entrepreneurship.
Thorgren S., Sirén C., Nordström C., Wincent J.	2016	Transition from hybrid to full-time entrepreneurship	Age	256 Swedish venture owners	Younger and older hybrid entrepreneurs are more likely to transition from hybrid entrepreneurship to full-time self-employment.

Table 3-1: Continued.

Authors	Year	Dependent Variable	Independent Variable	Sample	Findings
Schulz M., Urbig D., Procher V.	2016	Hybrid, full-time or not being an entrepreneur	Policy reform (one-stop shops)	212,523 Mexicans tracked from 2009 through 2014.	Well educated hybrid entrepreneurs are most responsive to deregulation reforms. That is, higher educated people are stimulated by deregulation reforms and enter hybrid entrepreneurship.
Nordström C., Sirén C.A., Thorgren S., Wincent J.	2016	Passion for entrepreneurship	Tenure and team involvement	262 Swedish hybrid entrepreneurs	Teams increase passion for hybrid entrepreneurs whereas higher tenure predicts lower levels of passion. The latter effect is moderated by team involvement.
Block J.H., Landgraf A.	2016	Transition from hybrid to full-time entrepreneurship	Financial- and non-financial motives	481 part-time entrepreneurs from Germany	Need for supplementing wage income and desire for social recognition predict lingering in hybrid entrepreneurship whereas independence and self-realization drive transitions into full-time entrepreneurship.
Thorgren S., Nordström C., Wincent J.	2014	Hybrid entry	Passion	262 Swedish entrepreneurs	Passion toward the self-employment activity is a main motive for individuals entering hybrid entrepreneurship.
Raffiee J., Feng J.	2014	Hybrid entry, firm survival	Risk-aversion, Self-Evaluation, Hybrid entrepreneurship	Representative sample of 12,686 individuals living in the U.S.	Individuals entering full self-employment from hybrid entrepreneurship show higher survival rates compared to those directly entering full self-employment.

Table 3-1: Continued.

Authors	Year	Dependent Variable	Independent Variable	Sample	Findings
Burmeister-Lamp K., Lévesque M., Schade C.	2012	Time allocation	Financial risks and returns	25 nascent entrepreneurs and 29 undergraduate students	Regulatory focus explains entrepreneurs time allocation. A promotion focus drives entrepreneurs to allocate more time to the startup if an additional unit of time yields more risk.
Folta T.B., Delmar F., Wennberg K.	2010	Entry into self-employment vs. Hybrid entry	Switching costs, Uncertainty, Human Capital	Men in Sweden between the age of 25 and 50 tracked from 1994 to 2002.	Hybrid entrepreneurship is different from self-employment. Switching costs, uncertainty and human capital drive HE. Finally, HE increases the probability of entry into self-employment.

Overall, almost all articles conclude that hybrid entrepreneurship represents an important part of overall study of entrepreneurial activities (Table 3-1). However, hybrid entrepreneurship differs from the dichotomous perspective on self-employment, which is still dominant in the extant literature. More specifically, the reasons why individuals enter full-time vs. hybrid entrepreneurship differ (Folta et al., 2010; Schulz et al., 2016). For instance, individuals are more likely to stay in hybrid entrepreneurship when the switching costs to and the uncertainty about full-time self-employment are high (Folta et al., 2010). Furthermore, risk-averse and self-conscious individuals are more likely to prefer hybrid to full-time entrepreneurship (Raffiee & Feng, 2014). While hybrid entrepreneurship can be the means through which low salaries in employment are supplemented through self-employment activities (Block & Landgraf, 2016), other studies find that the choice of hybrid entrepreneurship is not exclusively motivated by financial constraints (Folta et al., 2010)—on the contrary. There is increasing evidence that some groups of individuals entering hybrid entrepreneurship are driven more by opportunity than necessity. That is, higher levels of human capital make entry into hybrid entrepreneurship more likely (Folta et al., 2010; Schulz et al., 2016) and self-employment activities—initially conducted as a second job—are likely to yield more income than the job in paid employment (Schulz et al., 2017). In addition, entry into hybrid entrepreneurship is related to passion (Ferreira et al., 2019; Nordström et al., 2016; Thorgren et al., 2014), which corresponds to the view of hybrid entrepreneurs as individuals who form their identity around self-employment activities and, therefore, also accept higher workload (Burmeister-Lamp et al., 2012). Consequently, entrepreneurial persistence in hybrid entrepreneurship is not self-propelling and involves the need for high levels of entrepreneurial self-efficacy (Pollack et al., 2019).

Although hybrid entrepreneurship differs from full-time self-employment, it is endogenously connected to it because the former significantly increases the likelihood of entering the latter (Folta et al., 2010). Furthermore, the gestation period during which individuals combine their paid employment with self-employment activities (i.e., hybrid entrepreneurship) increases the likelihood of survival as full-time entrepreneur (Raffiee & Feng, 2014). This lends further importance to research investigating why and, specifically, when individuals transition from hybrid entrepreneurship into full-time self-employment (Thorgren et al., 2016). For instance, their striving for independence and self-realization (Block & Landgraf, 2016), as well as their non-supportive salaried-employee environments (Meoli & Vismara, 2016), foster the likelihood of transitioning from hybrid entrepreneurship into full-time self-employment.

From a career perspective, the literature on hybrid entrepreneurship states that becoming self-employed after a phase of hybrid entrepreneurship provides support for higher survival rates in entrepreneurship (Folta et al., 2010; Raffiee & Feng, 2014). However, there are also successful entrepreneurs who directly leave paid employment to become self-employed, without prior hybrid entrepreneurship phases. We shed light on this aspect of staged entrepreneurial career paths in the next section.

3.2.2 Spawning entrepreneurship

The transition from paid employment into self-employment is considered to be entrepreneurial spawning (Habib et al., 2013). This refers to employees leaving their employers in order to found their own ventures—often based on the know-how gained and/or the technology developed in the parent firm (Campbell et al., 2012). In practice, the phenomenon is more likely to occur in knowledge-intensive industries in which new ventures of ex-employees—the so-called “spin-outs”—emerge (Agarwal et al., 2004; Howard et al., 2019). For instance, Sørensen and Sharkey (2014) explain entrepreneurship as an outcome of a “mobility process,” i.e., a transition from paid employment in established organizations to self-employment ventures. The authors suggest that these transitions depend on appropriate organization–person constellations that allow opportunities to be identified and exploited. In their recent meta-analysis of 28 articles on entrepreneurial spawning,⁴ Garrett et al. (2017) investigate predictors for why individuals transition from paid employment to self-employment, finding 1) personal characteristics, such as education, and 2) parent firm characteristics, such as firm performance, to be relevant factors for entrepreneurial spawning.

Searching for such motivations at the individual level, Dobrev and Barnett (2005) indicate that various organizational developments could lead to disaffected employees who seek to build their identities by founding their own ventures. This detachment also occurs when high-performing individuals form the belief that their skills are more fruitfully applied in their own venture than in the established organization they work for (Campbell et al., 2012; Ghio et al., 2015). In line with the knowledge spillover theory (Acs et al., 2013) and the jack-of-all-trades perspective (Lazear, 2004), the more exclusive and diverse the knowledge is that individuals

⁴ Our search for additional articles on entrepreneurial spawning is conducted in the *Scopus* database, looking for articles published after Garrett et al.’s (2017) meta review. Using the “entrep* spawn*” AND “spawn* entrep*” search terms, we identify four further articles, although only one corresponds to how we define entrepreneurial spawning (Tan & Tan, 2017).

collect during their paid employment phase, the more likely they are to commercialize their knowledge through a spawning entrepreneurial transition (Garrett et al., 2017).

When looking at the firm characteristics that favor entrepreneurial spawning, Elfenbein et al. (2010) suggest that spawning is more likely to occur in small firms due to, *inter alia*, the opportunity they have to specifically develop relevant human capital for entrepreneurial activities. Furthermore, the more entrepreneurial opportunities—such as potential innovations—there are in established organization, the more likely the employees are to leave this organization and become self-employed (Habib et al., 2013). This is especially true when such entrepreneurial opportunities remain unexploited within the established organization itself—leading the employees to exploit them outside its confines (Andersson et al., 2012). Inefficient practices in established organizations—such as bureaucracy in state enterprises—provide a fertile ground for capable employees to leave and explore alternatives through entrepreneurial activity (Tan & Tan, 2017). In relation to this point, other circumstances in which established firms do not exploit potential entrepreneurial opportunities also drive entrepreneurial spawning—e.g., when established firms find themselves in crisis and when their capabilities for innovative activities decrease or their entrepreneurial opportunities do not match the less diversified portfolio of an established firm (Garrett et al., 2017).

Taken together, prior research on staged entrepreneurial career paths, such as hybrid and spawning entrepreneurship, investigates various predictors for possible career transitions. More specifically, the literature on hybrid entrepreneurship explains why and when individuals transition from paid employment or self-employment into a combination of both careers at the same time, while the research on spawning entrepreneurship investigates predictors for why and when individuals leave their employers in order to commercialize their acquired knowledge and create their own ventures. However, it remains largely unclear whether these career paths represent intended careers before entering employment or occur due to situational cues in employment. More specifically, what factors predict whether individuals would choose such a staged entrepreneurial career path? How do predictors of staged entrepreneurial career paths differ from those of classic career paths in paid employment? To investigate these questions, we turn toward the literature on the formation of behavioral and career intentions in the next section.

3.2.3 The theory of planned behavior and an entrepreneurial career perspective

Career theories over the past two decades increasingly consider the nature of blurred career paths (Sullivan, 1999; Sullivan & Baruch, 2009). For instance, the perspective of boundaryless careers introduces the idea that individuals are increasingly transitioning both psychologically and physically between jobs and career paths (Arthur & Rousseau, 1996; Arthur et al., 2005; Sullivan & Arthur, 2006). More recently, integrative frameworks—such as hybrid careers—consider the ever-rising dynamic in the working world of individuals (Sullivan & Baruch, 2009). That is, individuals increasingly strive to combine more traditional and non-traditional career paths together at the same time (Granrose & Baccili, 2006). However, the research on predicting entrepreneurial behavior almost exclusively focuses on entrepreneurship as a dichotomous outcome instead of a transitional career path (Burton et al., 2016).

One of the most prominent theories in entrepreneurship research—used to predict the intentions of individuals to employ entrepreneurial behavior—is the TPB. It is widely applied in studies that examine the intention of individuals to discover and exploit entrepreneurial opportunities (Krueger et al., 2000; Schlaegel & Koenig, 2014; Zaremohzzabieh et al., 2019). As Ajzen (1991, p. 189) states: “Behavior is a function of salient information, or beliefs, relevant to the behavior.” According to the TPB, the beliefs that individuals hold about the desirability, the normativity (perceived subjective norms relating to a behavior), and the perceived controllability of a specific behavior constitute their intention to perform it (Ajzen, 1991). The underlying theory of reasoned action indicates that the intention to carry out a behavior predicts the actual behavior, which would suggest that behavior can be freely performed only if an individual wishes to do so (Fishbein & Ajzen, 1975). By extending the theory to what is known as the TPB, scholars recognize that behavior can only be performed if there is an actual behavioral control present (Ajzen, 2002).

A recent meta-analysis based on 98 studies ($n = 114,007$) identifies support for the effect of the three TPB predictors on the entrepreneurial intention of individuals (Schlaegel & Koenig, 2014), with effect sizes comparable to those in general TPB research (Armitage & Conner, 2001). The results show attitude to behavior and perceived behavioral control to be the strongest predictors of entrepreneurial intention. However, the predictability of entrepreneurial intention through TPB elements varies in different contexts (Obschonka et al., 2012) as well as in relation to individual characteristics and backgrounds (Haus et al., 2013; Obschonka et al., 2015).

Furthermore, prior TPB research strives to disentangle the reasons why individuals demonstrate a gap between their intentions and their actual behavior (Adam & Fayolle, 2015,

2016; Haus et al., 2013; Kautonen et al., 2015; Obschonka, 2016; Sheeran, 2011; Shirokova et al., 2016). For instance, Van Gelderen et al. (2015) indicate that higher levels of perceived self-control mitigate the gap between entrepreneurial intention and action. Similarly, in a Ugandan entrepreneur setting, Gielnik et al. (2014) show that the more time passes until the first entrepreneurial activity, the weaker the effects of initial intentions.

A prominent direction in the research on TPB in entrepreneurship seeks to explain how contexts and personalities interact to form entrepreneurial intentions and behaviors (Edelman et al., 2016; Kibler et al., 2014; Meoli et al., 2020). The social cognitive career theory explains how personality and environment can reciprocally affect the career trajectories of individuals (Lent et al., 1994). While the cognitive functioning of individuals (e.g., their self-efficacy) can drive agentic career developments, environmental constraints or supports can either inhibit or enhance career ambitions (Lent & Brown, 2013; Lent et al., 2000). In this vein, Kibler et al. (2014) find that regional social legitimacy of entrepreneurship increases entrepreneurial intention and entry. Further evidence for the social embeddedness of entrepreneurial entry decisions can also be found in the influence of university peers' entrepreneurial behavior on the start-up rates for other students (Kacperczyk, 2013). Investigating entrepreneurial activities in the Italian student population, Meoli et al. (2020) suggest that relevant others (such as family and peers), as well as organizational and environmental influences (e.g., supportiveness university environment), can explain entrepreneurial entry of students after graduation.

Nevertheless, prior research on TPB in the entrepreneurial context largely neglects the fact that a vast majority of individuals show staged instead of dichotomous entrepreneurial career paths (Burke et al., 2008). In their editorial for a special career perspective issue, Burton et al. (2016) highlight this dilemma. That is, when entrepreneurial behavior is treated as a final outcome instead of a career development process, this neglects all the transitions that come from and flow into entrepreneurial activities. However, we argue that it is worth to investigate these transitional processes because they 1) can add additional explanations as to why individuals form entrepreneurial intentions and, more importantly, 2) can explain how and when they choose to act upon them.

Therefore, taking a career path perspective, we answer the call for a transitional and hybrid perspective of entrepreneurial intention and behavior. Hence, we extend the TPB by building a theory about what drives the differences in the intentions to enter a career path that involves transitioning from wage work into entrepreneurship (i.e., spawning entrepreneurs, Garrett et al., 2017) as well as why individuals form intentions to concurrently combine self-employment and paid employment career paths (i.e., hybrid entrepreneurs, Folta et al., 2010).

Attitudes toward entrepreneurship and staged entrepreneurship

The SCCT proposes that the interests of an individual constitute a central driver in the formation of career goals and actual behaviors, which can also withstand unfavorable contexts (Lent et al., 1994). Additionally, individuals prefer career choices that are expected to yield higher outcomes (Lent et al., 2000). In the TPB, the attitude toward a specific behavior (Ajzen, 1991) indicates the desire to conduct this behavior and the favorable expectation of its consequences, which is why there is an established link between entrepreneurial attitudes, intentions, and actions.

A hybrid entrepreneurship career path is flanked by time allocation dilemmas between wage work and self-employment activities (Burmeister-Lamp et al., 2012). Consequently, hybrid entrepreneurs' private life experience cutbacks in terms of using leisure and family time (Kimmel & Smith Conway, 2001). Thus, passion surrounding a self-employment activity or its expected outcomes might compensate for temporal shortcomings and foster the likelihood of hybrid entrepreneurship entry (Thorgren et al., 2014, 2016). Consequently, we expect that the higher the desire to become an entrepreneur is, the more likely individuals are to take on challenging steps, such as the double burden of wage work and self-employment—i.e., entry into hybrid entrepreneurship.

On the other hand, spawning entrepreneurial career paths enable individuals to build human capital that is relevant for entrepreneurship and to use it by commercializing opportunities either within or outside an established organization (Sørensen & Sharkey, 2014). This means that individuals can delay their decision to enter into entrepreneurship to a later point in time without experiencing much switching costs for either decision. This might be more appropriate for those individuals who are less confident about the desirability of an entrepreneurial career and want to discover opportunity costs. Hence, a less pronounced attitude toward entrepreneurship might drive a spawning vs. a hybrid entrepreneurial career path. Therefore, our first expected hypothesis is:

H1: Individuals with higher entrepreneurial attitudes are less likely to intend to pursue a spawning entrepreneurial career path in comparison to a hybrid entrepreneurial career path.

Perceived behavioral control and staged entrepreneurship

Self-efficacy beliefs are central to human agency (Bandura, 1986, 1997). This means that individuals base their behavioral decisions on whether they feel capable to act upon task-

related challenges (Bandura, 1989). Consequently, self-efficacy beliefs influence career choices, according to the SCCT, through their influence on outcome expectations, interests, goals, and actions (Lent et al., 1994, 2000). Higher levels of entrepreneurial self-efficacy might, therefore, propel the belief in the ability to achieve favorable outcomes despite the double load of wage work and nascent self-employment activities in hybrid entrepreneurship.

Prior studies show that those with higher levels of entrepreneurial self-efficacy are more likely to persist in mastering both careers (Pollack et al., 2019). For instance, hybrid career situations demand thoughtful time allocations (Burmeister-Lamp et al., 2012). Consequently, we argue that the more that individuals perceive being able to control upcoming entrepreneurial challenges, the more likely they are to perceive being able to master additional tasks, such as having a second career in addition to being self-employed.

On the other hand, research on spawning entrepreneurship specifically highlights the opportunity present in established organizations to acquire relevant entrepreneurial skills and knowledge (Garrett et al., 2017). The human capital acquired at a parent firm constitutes the base for the transition of individuals into self-employment (Agarwal et al., 2004). Therefore, we argue that individuals who have lower entrepreneurial self-efficacy beliefs are more likely to enter a spawning entrepreneurship career in order to first build the necessary human capital. Hence, our second expected hypothesis is:

H2: Individuals with higher perceived behavioral control are less likely to intend to pursue a spawning entrepreneurial career path in comparison to a hybrid entrepreneurial career path.

Subjective norms and staged entrepreneurship

Prior literature indicates that positive subjective norms of relevant others—with respect to a specific behavior—foster the formation of intentions toward that behavior. For instance, support of relevant others increases the likelihood that individuals would turn their intention into a decision to actually become self-employed (Kacperczyk, 2013; Meoli et al., 2020). The SCCT highlights social contextual influences on the career preferences of individuals (Lent et al., 1994, 2000). It indicates that “the wishes of influential others may hold sway over the individual’s own personal career preferences” (Lent et al., 2000, p. 38). This is especially true when contextual factors—such as approval of relevant others and an individual’s interests—collide, causing individuals to struggle with making their career choice (Lent et al., 2000). We hypothesize that hybrid entrepreneurship career paths are motivated by negative subjective

norms toward entrepreneurship. This means that, if relevant others—e.g., family members, friends, and colleagues—perceive an entrepreneurial career to be less favorable, individuals would choose to enter paid employment at an established organization to satisfy the expectations of others but would also uphold their self-employment activity as a side job. For instance, Block and Landgraf (2016) find that social recognition motivates individuals to remain in a hybrid entrepreneurship state and not completely transition into full-time self-employment. They argue that, in economically thriving countries like Germany, self-employment careers are perceived to be less favorable (Amorós & Bosma, 2014). We argue that hybrid entrepreneurship might be an adequate response for those individuals who still desire to become entrepreneurs.

On the other hand, individuals might be encouraged by positive subjective norms to enter into full-time self-employment after collecting relevant resources via spawning entrepreneurial career paths (Elfenbein et al., 2010). Thus, our third expected hypothesis is:

H3: Individuals with higher subjective norms toward entrepreneurship are more likely to intend to pursue a spawning entrepreneurial career path in comparison to a hybrid entrepreneurial career path.

3.2.4 Social class origins and the formation of staged career choice intentions

Children grow up in different social class backgrounds. Their social class can be defined as “a dimension of the self that is rooted in objective material resources (income, education, and occupational prestige) and corresponding subjective perceptions of rank vis-à-vis others” (Côté, 2011, p. 47). Hence, social class origins can persist and influence behavior in adult life even if the objective social class (income, education, and occupational prestige) changes over the course of one’s life (Bourdieu, 1984; Kish-Gephart & Campbell, 2015).

Social class backgrounds play a major role in vocational behavior research that aims to explain the intentions and behaviors of individuals with respect to their career choices (Diemer & Ali, 2009; Eshelman & Rottinghaus, 2015; Flores et al., 2017; Thompson & Subich, 2006). Such research shows that, for example, the social class of parents is transmitted in parent–adolescent relationships (Thompson et al., 2018) and that the awareness of their social class is a driving force in college students’ career intentions and behaviors (Muzika et al., 2019).

Despite the important role that social environments of individuals play (Meoli et al., 2020)—especially in terms of social class origins—in the formation of career choice intentions (Diemer & Ali, 2009; Eshelman & Rottinghaus, 2015; Flores et al., 2017; Thompson & Subich,

2006), research on entrepreneurial intentions and entry barely reflects the potential role played by family socio-economic situations and class backgrounds. Prior research on whether social class predicts entrepreneurial entry produces mixed results. For instance, Audretsch et al. (2013) show that individuals who belong to a lower caste in India are less likely to become self-employed. In a longitudinal study that followed individuals from birth to the age of 34, Schoon and Duckworth (2012) indicate that a family's socio-economic situation positively affects actual self-employment in adulthood—but only for women. Other research suggests that embarking on an entrepreneurship path is not generally affected by indicators of social class (Kim et al., 2006), while, at the same time, the success of new ventures (Frid et al., 2016), the choice of industry, and the particular entrepreneurial opportunity seem to be affected by wealth and education-specific barriers and rewards (Lofstrom et al., 2014).

We argue that social class origins affect *how*—rather than *if*—individuals intend to enter entrepreneurship. Folta et al. (2010) suggest that entry into hybrid entrepreneurship is more likely driven by opportunity than necessity because financial constraints do not explain hybrid entrepreneurship entry. In fact, these authors find that human capital drives the probability of hybrid entry. More specifically, highly educated individuals enter self-employment only if they expect to have higher outcomes in comparison to opportunity costs. This corresponds with findings that holding multiple jobs might not be a precarious endeavor for hybrid entrepreneurship because hybrid entrepreneurs earn more through their self-employment side-activities than through their primary paid employment (Schulz et al., 2017). Further evidence for better educated individuals being more likely to respond to market opportunities, such as policy deregulations, by entering into hybrid entrepreneurship supports the assumption that individuals who have relevant capital are pulled rather than pushed into hybrid entrepreneurship activities (Schulz et al., 2016).

According to the SCCT, environmental barriers (or support) affect decisions about specific choice goals (Lent et al., 2000). That means that growing up in socio-economically uncertain environments might influence the transition of interests in entrepreneurship on concrete choice goals (intention to enter self-employment) and actions (self-employment activities). However, given the interest in entrepreneurship, barriers such as disadvantaged socio-economic conditions might not impede the career choice itself but rather the intended path toward the aspired career.

Hence, entering a staged entrepreneurial career through spawning enables those individuals who have less supportive family backgrounds to first build relevant capital that would allow them to transition into self-employment at a later point in time (Garrett et al.,

2017). Established organizations, such as small businesses, are suggested to be the breeding ground for spawning entrepreneurs looking to build necessary capital (Elfenbein et al., 2010). We assume that they especially enable capital building for the entrepreneurship purposes of those individuals who have disadvantaged backgrounds. Given that entrepreneurship is a career choice that inherently involves high levels of uncertainty and delayed financial gratification—as exemplified by a new venture having an average gestation period of 68 months (Liao & Welsch, 2008)—while salaried employment promises higher initial earnings, as well as some kind of certainty (Hamilton, 2000), we assume that individuals who are born into lower social classes tend to decide to begin their careers as employees in order to build the relevant capital so that they can, at a later point in time, seize opportunities in the form of hybrid or full-time entrepreneurship. Consequently, our fourth expected hypothesis is:

H4: Individuals with higher social class origins are less likely to intend to pursue a spawning entrepreneurial career path in comparison to a hybrid entrepreneurial career path.

3.3 Materials and Methods

3.3.1 Data collection

To test the hypothesized relationships, data were gathered from individuals who were at a sensitive point in their lives for making career choices—German HEI students. An online survey was used to collect this data at the beginning of 2019. Prior research identifies these students to be a population for which the TPB explains a significant amount of variance in career intentions and behaviors (Meoli et al., 2020; Schlaegel & Koenig, 2014; Sieger & Monsen, 2015; Zellweger et al., 2011). A total of 1,224 students from public and private HEIs in all German federal states—pursuing various fields of study—completed the questionnaire and were financially compensated by a private panel provider for their participation. Based on a quality index that assessed the time that participants took to answer each question in comparison to other survey respondents, 121 cases that had low response quality were removed from the initial sample, leading to a final sample of 1,003 participants. Table 3-2 lists the descriptive statistics of the sample. Participants were on average 24.5 years old, 59% were women, and all subject groups were represented—with the majority of the student respondents studying law, business, and social sciences (29.4%), engineering sciences (16.1%), mathematics and natural sciences (15.6%), and humanities (14.4%). These numbers are broadly comparable to the general population of German HEI students (DeStatis, 2019).

Table 3-2: Descriptive statistics on the sample.

	N	%		N	%
Federal State			Institution funding		
North-Rhine Westphalia	280	27.9	Public	890	88.7
Bavaria	123	12.3	Private	68	6.8
Baden-Wuerttemberg	111	11.1	Other	45	4.5
Hesse	91	9.1	Gender		
Lower Saxony	90	9.0	Male	412	41.1
Berlin	67	6.7	Female	591	58.9
Rhineland-Palatinate	40	4.0	Study progress		
Saxony	50	5.0	Bachelor's	688	68.6
Hamburg	26	3.7	Master's	181	18.0
Schleswig-Holstein	28	2.8	Other (PhD/MBA)	134	13.4
Saxony-Anhalt	24	2.4	Field of study groups		
Thuringia	21	2.1	Agricultural and food sciences	30	3.0
Brandenburg	13	1.3	Humanities	144	14.4
Mecklenburg Western Pomerania	15	1.5	Medicine and health science	66	6.6
Bremen	13	1.3	Engineering sciences	161	16.1
Saarland	11	1.1	Art	34	3.4
Type of institution			Mathematics, natural sciences	156	15.6
University	636	63.4	Law, business, and social sciences	295	29.4
University of applied sciences	367	36.6	Sport sciences	19	1.9
			Other	98	9.8

3.3.2 Measures

The construct items were translated from English to German and were checked using back translation by a researcher uninvolved in the study in order to avoid potential translation bias (Brislin, 1970). All items were measured using a 7-point Likert scale and the constructs were built through a mean computation of the respective items. Table 3-3 shows the means, standard deviations (SD), Cronbach's alphas, and the correlations of all included variables. With respect to the reliability of the measures, their Cronbach's alpha values were solid and higher than 0.75 for all constructs, indicating construct reliability.

The multicategory dependent variable *staged entrepreneurial career choice* was coded as *1 = hybrid entrepreneurial career path* if students were already preparing their entrepreneurial career by undertaking founding activities during their studies but nevertheless planned to first begin their career as employees upon completing their studies. More specifically, these students mentioned that they were either already self-employed or currently

Table 3-3: Means, standard deviations (SD), Cronbach's Alphas (CA) and correlations.

Variable	Mean	S.D.	C.A.	1	2	3	4	5	6	7	8	9	10	11
1. Hybrid path	0.091	0.287	-	1										
2. Spawning path	0.159	0.365	-	-,137**	1									
3. Abstain	0.698	0.459	-	-,480**	-,660**	1								
4. Gender	0.589	0.492	-	-,103**	,046	,051	1							
5. Age	24.455	4.376	-	,017	-,089**	,029	,011	1						
6. Migration Background	0.224	0.417	-	,071*	,087**	-,115**	,012	-,013	1					
7. End of Studies	2.520	1.107	-	,008	,112**	-,089**	-,105**	-,331**	-,024	1				
8. Entrepreneurial Attitude	3.693	1.542	0.922	,314**	,237**	-,496**	-,150**	-,053	,145**	,075*	1			
9. Entrepreneurial Self-Efficacy	4.257	1.129	0.863	,252**	,172**	-,351**	-,047	-,088**	,134**	,051	,566**	1		
10. Subjective Norms	5.068	1.066	0.751	,079*	,182**	-,203**	,010	-,071*	,121**	-,019	,337**	,371**	1	
11. Social Class Origin	0.000	0.736	-	,088**	-,018	-,048	-,083**	-,060	-,114**	,079*	,028	,088**	,031	1

*** Correlation is significant at the 0.001 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed). Pearson product-moment correlation coefficients, point-biserial correlation coefficients where appropriate. N=1.003.

working on becoming self-employed.⁵ As a result of combining their occupational status as students with self-employment gestation activities, we considered those students to be hybrid entrepreneurs. If students were planning to enter wage work directly after their studies without undertaking venture gestation activities during their studies but intending to have an entrepreneurial career five years after the completion of their studies, they were coded as 2 = *spawning entrepreneurial career path*. Those who did not intend to be entrepreneurially active at any point in time were coded as 0 = *abstainers*. We excluded those students who either intended to directly enter self-employment upon the completion of their studies (n = 28) or who did not know what career path they wanted to follow directly after completing their studies (if they did not belong to the *abstainer* groups [n = 25]). Figure 3-1 illustrates the different career paths under study.

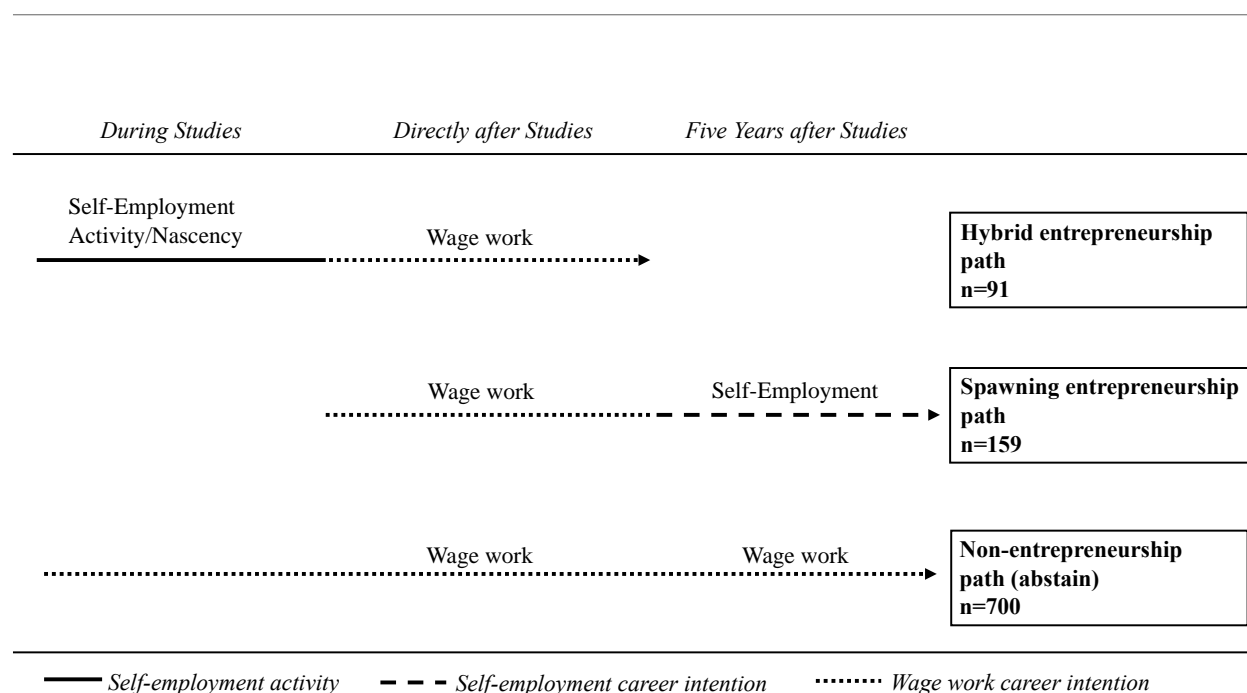


Figure 3-1: Staged entrepreneurial career path choices under study.

Descriptive statistics show that—from the 1,003 students in our sample, which is representative of the overall German student population in most categories—9.07% chose a hybrid entrepreneurial career path by intending to enter paid employment upon study completion despite being or becoming self-employed; 15.85% chose a spawning

⁵ We tested our hypotheses with both nascent and active entrepreneurs who intended to enter wage work directly after their studies in the main models, and with only nascent entrepreneurs who intended to enter wage work directly after their studies in our robustness checks.

entrepreneurial career path by not currently attempting to become self-employed because they intend to enter paid employment directly after studies, only becoming self-employed five years after completing their studies. A total of 69.79% of the students were not entrepreneurially active during their studies and were neither planning to enter self-employment directly nor five years after completing their studies. Only 2.8% of the students in our sample did not intend to enter paid employment but to directly take the self-employment career path upon study completion. This is in line with other studies on German students' entrepreneurial activity after graduation (Sieger et al., 2016b).

In line with other hybrid entrepreneurship studies (Folta et al., 2010), we chose not to understand the different categories as ordered. Applying an ordered variable approach would mean, for instance, that a *hybrid entrepreneurial career choice* has a higher order and is, for example, more desirable than a *spawning entrepreneurial career choice*. However, as we hypothesized in our theory, the choice of entrepreneurial career paths highly depends on both individuals and contexts, making either one or the other path more or less suitable. A spawning entrepreneurial career path might, for example, be more desirable if individuals face restrictions in their capacity to combine two jobs at the same time. However, when they build this capacity during an employment phase, they might be ready to enter either hybrid or full-time entrepreneurship. Thus, we did not analyze our hypotheses using an ordinal regression approach. Instead, we turned toward a multinomial logit model in which dependent variable categories include equivalent career path choices for individuals. By running and comparing probit and logit models (see Appendix), we assessed the independence of irrelevant alternatives (IIA) assumption and checked for violations of this independence in the categories of our multinomial variable *staged entrepreneurship* (Hausman & McFadden, 1984). The results of both models were in line with the core hypotheses in our multinomial logit model. Hence, we assumed that the IIA holds and continued the analysis using our multinomial logit regression model.

Independent variables that operationalize the TPB in the realm of entrepreneurial career choice intentions are personal attitudes, subjective norms, and perceived behavioral control. The latter was measured using a combined measure of perceived controllability and entrepreneurial self-efficacy, as proposed by Ajzen (2002). Referencing the cross-culturally validated items by Liñán and Chen (2009), the current study used five items to measure *personal attitudes to entrepreneurship*, as well as three items to capture *subjective norms* regarding the perception that family, friends, and fellow students approve of an entrepreneurial career. *Entrepreneurial self-efficacy* was measured using seven items regarding the perceived

competence of dealing with relevant stages of the entrepreneurial process (Kickul et al., 2009; Liñán, 2008; Zhao et al., 2005).

Furthermore, in order to measure *social class backgrounds*, we relied on the most common approach for capturing the family income, educational background, and job status information (Adler et al., 2000; Côté, 2011). Since prior literature indicates that the highest class indicators in a family represent its social class, we asked respondents to provide job statuses and educational backgrounds for both parents and included the highest manifestation of either respondent's father or mother in our measure. In line with the procedure suggested by (Adler et al., 2000), we standardized the social class measures and integrated them into one social class variable using mean computation. The items of our latent variables are listed in detail in the Appendix.

Control variables included: *gender* measured as a dichotomous variable (1 = female) because previous studies show that men are more likely to demonstrate entrepreneurial intention (Haus et al., 2013); *age* measured in years because attitudes to entrepreneurship might change with age, particularly during the transition to adulthood (Obschonka, 2016); *migration background* to reflect findings that show that migrants demonstrate greater entrepreneurial activity under certain circumstances (Baycan-Levent & Nijkamp, 2009); *time to completion of studies* measured in years because career choice intentions might particularly be formed during the final education stage. The fields of study that served as dummy variables were: *arts and humanities; engineering, human medicine, and health sciences; law and economics* (including business sciences); *mathematics and natural sciences; art, social sciences, and sports* (Sieger & Monsen, 2015; Zellweger et al., 2011).

Table 3-4 indicates the characteristics of those individuals who made different career path choices, focusing on comparing the characteristics of those who intended different staged entrepreneurial career paths. Spawning entrepreneurial career paths drew more female individuals, whereas hybrid career paths corresponded with higher social class origins. The means of our hypothesized latent variables also differed during the subsample analysis. We conducted the confirmatory factor analysis using all latent variables in our model, resulting in an acceptable model fit ($X^2 = 835,532$; $df = 87$; $GFI = 0.89$; $TLI = 0.90$; $CFI = 0.91$; $RMSEA = 0.093$). All factor loadings were above 0.5 and factor intercorrelations were below 0.65, providing support for the convergent and discriminant validity of our factors.

Since we drew on both our independent and dependent variables in the same survey, we turned our focus toward testing for common method variance. However, it should be stressed that, before we applied post-hoc tests, the most common method variance sources were already

Table 3-4: Means of independent variables by type of staged entrepreneurial career choice.

	Hybrid (1)		Spawning (2)		Abstain (3)		Difference between (1) and (2) in (4)
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Sig
Gender	0.429	0.498	0.642	0.481	0.606	0.489	***
Age	24.692	5.420	23.560	4.229	24.539	4.067	†
Migration Background	0.319	0.469	0.308	0.463	0.193	0.395	
End of Studies	2.550	1.025	2.805	1.082	2.456	1.110	†
Entrepreneurial Attitude	5.226	1.213	4.533	1.295	3.190	1.359	***
Entrepreneurial Self-Efficacy	5.155	1.048	4.704	0.909	3.996	1.086	***
Subjective Norms	5.333	1.117	5.514	0.976	4.925	1.025	
Objective Social Class Origin	0.204	0.706	-0.031	0.760	-0.023	0.729	*
Agricultural and food sciences	0.066	0.250	0.025	0.157	0.029	0.167	
Humanities	0.121	0.328	0.082	0.275	0.161	0.368	
Medicine and health science	0.066	0.250	0.088	0.284	0.061	0.240	
Engineering sciences	0.187	0.392	0.233	0.424	0.143	0.350	
Art	0.055	0.229	0.031	0.175	0.027	0.163	
Mathematics, natural sciences	0.165	0.373	0.094	0.293	0.169	0.375	
Law, business, and social sciences	0.253	0.437	0.327	0.471	0.289	0.453	
Sport sciences	0.055	0.229	0.006	0.079	0.019	0.135	*
Observations	91		159		700		

Note: To compute the significance of mean differences we applied an independent sample t-test. S.D. = standard deviation. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; † < 0.1 .

avoided in the research design phase, as recommended (Podsakoff et al., 2003). We ensured that participants remained anonymous during our survey by having a third party handle their recruitment, which likely decreased our social desirability bias. Furthermore, the independent and dependent variables were positioned in different parts of the survey using varying question types, thus decreasing the likelihood of answer patterns. Most importantly, the question and answer types

for the independent and dependent variables were different. This means that, while the independent variables drew on levels of agreement (using Likert-type scales), the dependent variable was dichotomous in nature because participants could either affirm or reject the related questions. Thus, we assumed that the relationship between the independent and dependent variables was not significantly biased due to common method variance.

Applying the single-factor method (Podsakoff et al., 2003) we forced all items of our three latent variables to load on only one factor which showed that only 43.17% of the variance can be explained by a single factor. In addition, the model fit in the single-factor solution significantly dropped to an inadequate level ($X^2 = 33,049$; $df = 91$; $GFI = 0.65$; $TLI = 0.62$; $CFI = 0.67$; $RMSEA = 0.179$), indicating that common method variance was of minor relevance for the data (Malhotra et al., 2006).

3.4 Results

To test our hypothesized relationships, we analyze our multinomial logit model. The results, including coefficient strengths and significance levels, are presented in Table 3-5. For the first two models, the reference category is abstaining from entrepreneurship. The model fit of Nagelkerke's Pseudo R^2 shows that 37% of the dependent categories in the final model can be explained by the independent variables.

When comparing staged entrepreneurial career paths with abstaining from entrepreneurship, we find that entrepreneurial attitude ($b = 1.020$, $p < 0.001$) and self-efficacy ($b = 0.564$, $p < 0.001$) positively influence a hybrid career path choice, whereas higher subjective norms decrease the likelihood that individuals would intend to add a main job as a salaried employee to their self-employment activities ($b = -0.306$, $p < 0.05$). In addition, the higher the social class origin is, the more likely an individual is to take a hybrid entrepreneurial career path vs. abstaining from entrepreneurship ($b = 0.446$, $p < 0.05$). Furthermore, spawning entrepreneurial career paths are more likely for individuals who have higher entrepreneurial attitudes ($b = 0.566$, $p < 0.001$) and subjective norms ($b = 0.240$, $p < 0.05$).

With respect to our control variables, female individuals are more likely to choose a spawning vs. a hybrid entrepreneurial career path ($b = 0.726$, $p < 0.05$). More specifically, female individuals show more than twice the likelihood of choosing a spawning vs. a hybrid path ($\text{Exp}(B) = 2.143$). Furthermore, the more time there is until individuals complete their education, the more

Table 3-5: Multinomial logit model (Abstain, Hybrid Entry, Spawning Entry).

	Hybrid vs. Abstain			Spawning vs. Abstain			Spawning vs. Hybrid		
	B	Sig.	S.E.	B	Sig.		B	Sig.	S.E.
Intercept	-9.004	0.000	1.438	-6.241	0.000	1.063	2.763	0.082	1.591
<i>Control Variables</i>									
Gender	-0.286		0.277	0.476	*	0.215	0.762	**	0.306
Age	0.034		0.030	-0.012		0.026	-0.046		0.035
Migration Background	0.402		0.291	0.322		0.221	-0.080		0.313
End of Studies	-0.030		0.130	0.252	**	0.096	0.282	*	0.141
<i>Hypothesized main effects</i>									
Entrepreneurial Attitude	1.020	***	0.134	0.566	***	0.086	-0.454	***	0.141
Entrepreneurial Self-Efficacy	0.564	***	0.172	0.169		0.115	-0.395	*	0.185
Subjective Norms	-0.306	*	0.144	0.24	*	0.109	0.546	***	0.161
Social Class Origin	0.446	*	0.189	-0.01		0.136	-0.456	*	0.204
<i>Field of Study Dummy Variables</i>									
Agricultural and food sciences	1.235		0.855	-0.677		0.656	-1.912	*	0.956
Humanities	0.922		0.742	-0.578		0.425	-1.500	†	0.791
Medicine and health science	0.742		0.814	0.233		0.451	-0.509		0.841
Engineering sciences	1.036		0.720	0.343		0.375	-0.694		0.741
Art	1.826	*	0.898	0.187		0.622	-1.639	†	0.942
Mathematics, natural sciences	0.972		0.726	-0.597		0.416	-1.569	*	0.772
Law, business, and social sciences	0.510		0.698	-0.216		0.342	-0.726		0.717
Sport sciences	1.664	†	0.962	-1,483		1.118	-3.147	*	1.324
<i>Model fit</i>									
<i>Nagelkerke (Pseudo R-Square)</i>									
						0.370			

Notes: S.E. standard errors. *** p<0.001; ** p< 0.01; * p<0.05; † <0.1.

likely they are to think about a spawning vs. a hybrid entrepreneurial career path ($b = 0.282$, $p < 0.05$).

We now turn toward our hypothesized relationships regarding personal and contextual variables predicting career choice intentions between hybrid and spawning entrepreneurial career paths. Our first hypothesis (H1) states that the higher the desire toward entrepreneurship is, the less likely individuals are to enter a spawning vs. a hybrid career path. Our results ($b = -0.454$, $p < .001$) strongly support H1. Individuals who have a one unit increase in attitude toward entrepreneurship are 36.5% more likely to choose a hybrid vs. a spawning entrepreneurial career path ($\text{Exp}(B) = 0.635$).

The second hypothesis (H2), which indicates that higher levels of entrepreneurial self-efficacy of individuals negatively influence the likelihood of a spawning vs. a hybrid career path choice, is supported by our analysis ($b = -0.395$, $p < 0.05$). A one unit increase in the self-efficacy of individuals fosters their likelihood to choose a hybrid vs. a spawning career path by 32.6% ($\text{Exp}(B) = 0.674$).

The third hypothesis (H3) comprises the assumption that higher levels of subjective norms positively influence the likelihood of individuals to choose a spawning vs. a hybrid entrepreneurial career path. Analyzing our multinomial logit model strongly supports H3 by showing the positive effect of subjective norms on a spawning career path choice ($b = 0.546$, $p < 0.001$). More specifically, individuals who have a one unit increase in their subjective norms about entrepreneurship are 1.7 times more likely to choose a spawning vs. a hybrid entrepreneurial career path ($\text{Exp}(B) = 1.727$).

Finally, the fourth hypothesis (H4) of this study—that higher social class origins decrease the likelihood of forming an intention to pursue a spawning vs. hybrid entrepreneurial career path—is also supported by the findings of our multinomial logit model ($b = -0.456$, $p < 0.05$).

3.5 Robustness checks

In order to increase confidence in our results, we test for several alternative explanations. First, we test whether the results of our model hold if we change the categories of our multinomial dependent variable. There are concerns about whether active entrepreneurs entering paid employment might intend to quit their self-employment activity after graduation. Consequently,

we specifically test whether including only nascent student entrepreneurs (those currently trying to become self-employed) into our hybrid category results in different outcomes. Our checks show that the hypothesized effects (H1–H4) remain equally significant, whereas only the social class origin effect slightly decreases in significance.

Additionally, omitting non-staged—i.e., direct—entrepreneurial career paths could raise concerns regarding biased results. Hence, we check how the effects change when adding a fourth category, called *direct self-employment*, which refers to students who intend to become self-employed directly after their studies. The hypothesized effects on spawning vs. hybrid entrepreneurial career paths hold (entrepreneurial attitude: $b = -0.440$, $p < 0.01$; entrepreneurial self-efficacy: $b = -0.419$; $p < 0.05$; subjective norms: $b = 0.517$, $p < 0.001$; social class origins: $b = -0.440$; $p < 0.05$). However, due to the small subsample of students intending a direct entrepreneurial career path (28 out of 1,003 students⁶), we omit this category in our final model to avoid bias in our multinomial logit model.

To further check the robustness of our results, we test for a model in which we investigate the effects of entrepreneurial intention on staged entrepreneurial career choice intentions. The results indicate that higher levels of entrepreneurial intention are more likely to predict a hybrid vs. a spawning entrepreneurial career path choice ($b = 0.538$, $p < 0.001$). When controlling for the entrepreneurial intentions of individuals, the positive effect of social class origins on hybrid vs. spawning entrepreneurial career paths remains significant ($b = -0.564$, $p < 0.01$).

3.6 Discussion

This study is guided by the research question: What drives the decision to choose a staged entrepreneurial career path, such as that of a hybrid or spawning entrepreneurship? Based on the TPB and the SCCT, our study proposes that the beliefs held by individuals about entrepreneurship, together with their social class origins, shape their staged career choice decisions. Drawing on a dataset of 1,003 young adults who are at a career sensitive stage in their lives, the empirical results support our theoretical arguments. We find that elements of the TPB differ between various staged entrepreneurial career pathways. More specifically, perceived behavioral control increases the

⁶ A nationwide study—conducted in Germany in 2016 at 39 HEIs and among 15,984 students—finds that 2% of students intend to become self-employed directly after their studies, while 17% intend to become self-employed five years after their studies. This corresponds to the results we see in our data (Sieger et al., 2016b).

likelihood that individuals would choose to balance nascent entrepreneurial activity and wage work (i.e., hybrid entrepreneurship entry). Furthermore, positive attitudes toward entrepreneurship increase the likelihood that individuals would take on the burden of hybrid entrepreneurship, whereas they decrease the probability of delaying entry into self-employment via spawning career paths. Negative subjective norms increase the likelihood that the intention of individuals to enter paid employment—in addition to self-employment (i.e., hybrid entrepreneurship) and positive subjective norms—would drive the likelihood of the intention of individuals to enter spawning entrepreneurship. We also find that the choice of different career paths is dependent on gender and social class origins. For instance, female individuals primarily intend to enter career paths that delay entrepreneurial entry (i.e., spawning entrepreneurship). Also, the higher the social class origin is, the higher the probability is for those individuals to enter hybrid vs. spawning career paths.

The study's primary contribution lies in the integration of transitional career perspectives and TPB, introducing a new perspective from which to predict the formation of entrepreneurial intentions and behaviors. This perspective considers the non-dichotomous nature of the increasingly blurred career paths of individuals, including back-and-forth shuffling between self-employment and paid employment (Burke et al., 2008; Folta et al., 2010; Habib et al., 2013). In fact, our results indicate that individuals are most likely to form entrepreneurial intentions that include transitional career pathways. Out of a largely representative sample of the German student population, 24.9% intend to take either hybrid or spawning entrepreneurial career paths, whereas only 2.8% intend to follow a direct path into entrepreneurship.

This is especially remarkable because we find that the effects of the beliefs of individuals about entrepreneurship on their staged entrepreneurial career path intentions differ 1) between hybrid and spawning entrepreneurial career paths and 2) in comparison to what prior TPB literature suggests regarding the predictors of general entrepreneurial intention and behavior. For instance, we find that individuals who intend to complement their self-employment activities with entering a paid-employment career are also driven by negative subjective norms toward entrepreneurship. We show that this effect is independent from their overall entrepreneurial intention. Hybrid entrepreneurship might, therefore, be a means through which career interests and social expectations can be translated into an adequate career path.

Furthermore, as our results display, spawning entrepreneurs do have significantly higher beliefs in the favorability of an entrepreneurial career in comparison to those who intend to abstain from entrepreneurship—they just intend to take a different road to entrepreneurship. Hence, do individuals who have high entrepreneurial intention but, at the same time, intend to delay entry (e.g., to acquire the necessary human capital through paid employment, Elfenbein et al., 2010) show a gap in their behavior if they stick to their plan and begin their careers as employees? If further research does not consider the possibility of blurred career paths, conclusions about intention–behavior gaps might be biased.

However, our findings also indicate that further research might look into how staged entrepreneurial career path intentions might unfold in the coming years. For instance, the relatively high proportion of the German student population—15.9%—that intends to take a spawning entrepreneurial career path is not in line with recent numbers of students who have actually become self-employed in Germany. The human choices that follow an intention are not fully congruent with actual outcomes (Johansson et al., 2005). This might specifically apply to career intentions (Lent & Brown, 2013). For instance, the length of the time period between first having the intention and first conducting actual career activities might decrease the likelihood of realizing the intention (Gielnik et al., 2014). Hence, we propose that, in particular, those who intend to take a spawning entrepreneurial career path might abandon their entrepreneurial intentions once they begin their careers at established organizations (Elfenbein et al., 2010; Habib et al., 2013). This relates to the literature that studies how individuals adjust their career aspirations in light of the experience they gain in employment and how individuals adapt to new situations, such as economic security, which raises the opportunity costs of entrepreneurship (Krueger & Brazeal, 1994; Krueger et al., 2000; Zhao, 2013).

Our findings indicate that social class backgrounds affect *how* individuals choose to enter entrepreneurial careers, not *if* they choose to do so. Prior research produces mixed results on whether socio-economic status influences overall entrepreneurial entry (Kim et al., 2006; Schoon & Duckworth, 2012). On the one hand, we argue that structural positions influence the choice of entrepreneurial career paths as a result of the requirements of different forms of capital in hybrid and more direct compared to spawning career paths. On the other hand, the social class environments of individuals affect their cognition and, hence, their decision-making (Haushofer & Fehr, 2014). This means that growing up in uncertain environments implies certain socio-

cognitive imprints on how individuals perceive—e.g., uncertainty—and make decisions. For instance, the higher the social class origins of individuals are, the higher their sense of control is in uncertain situations (Mittal & Griskevicius, 2014). The results of our study suggest that those from higher social class origins are willing to accept the higher uncertainty found in a hybrid entrepreneurship career path, whereas those from lower social class origins are comparably more likely to spawn into entrepreneurship from certain situations of paid employment. Further research might look into whether social class actually prevents or supports the realization of entrepreneurial intentions in these different career paths (e.g., see Meoli et al., 2020).

Future research might also investigate whether our results for career choice decisions in Germany also hold in other national contexts. Due to the economic situation in Germany, with nearly full employment, opportunity costs for those thinking about entrepreneurial careers are high. Consequently, there happen to be smaller founding rates in Germany (Sieger et al., 2016b). Nevertheless, our study shows that nearly one quarter of the German student population intends to choose a staged entrepreneurial career path either by combining self-employment with paid employment or by transitioning from paid employment to self-employment. Thus, it might be especially interesting to examine whether the share of transitional career intentions decreases for economies that have lower opportunity costs for self-employment. Next, our hypotheses are tested using young adults who are in a sensitive career phase—i.e., who are transitioning into their first career step after graduation. Future studies could investigate how the career path preferences evolve over the course of an individual's professional life. Finally, our focus is on comparing staged entrepreneurial career pathways. Further research might apply our assumptions and compare the choice of full-time self-employment with that of a hybrid and spawning entrepreneurial career path.

3.7 Conclusion

Individuals choose different paths toward entrepreneurship. This study investigates the reasons why some individuals intend to follow a hybrid career path by combining their self-employment activities with paid employment, while other individuals intend to spawn their future self-employment activities at established organizations. To better understand what motivates entry

into entrepreneurship, we encourage future research to consider these transitional career perspectives.

Appendix

Table 3-6: Items of the related constructs applied in the study.

	Constructs	Scale	Reference
1.	Entrepreneurial attitude (Please indicate your level of agreement with the following statements.)	7-point Likert	(Liñán & Chen, 2009)
1.a-	Being an entrepreneur implies more advantages than disadvantages to me.		
1.b-	A career as entrepreneur is attractive for me.		
1.c-	If I had the opportunity and resources, I'd like to start a firm.		
1.d-	Being an entrepreneur would entail great satisfactions for me.		
1.e-	Among various options, I would rather be an entrepreneur.		
2.	Subjective norms (If you decided to create a firm, would people in your close environment approve of that decision?)	<i>1 = total disapproval to 7 = total approval</i>	(Liñán & Chen, 2009)
2.a-	Your close family.		
2.b-	Your friends.		
2.c-	Your fellow students.		
3.	Entrepreneurial self-efficacy (Please indicate your level of competence in performing the following tasks.)	<i>1 = very low competence to 7 = very high competence</i>	(Zhao et al., 2005)
3.a-	Successfully identifying new business opportunities.		(Zhao et al., 2005)
3.b-	Creating new products (or services).		
3.c-	Thinking creatively (Zhao et al., 2005).		(Zhao et al., 2005)
3.d-	Commercializing an idea or new development.		(Zhao et al., 2005)
3.e-	Leadership and communication skills.		(Liñán, 2008)
3.f-	Networking skills and making professional contacts.		(Liñán, 2008)
3.g-	Manage a small business.		(Kickul et al., 2009)

Table 3-6: Continued.

	Constructs	Scale	Reference
4.	Social class origins—Education of parents <i>(Which of the following categories describe your mother's/father's educational level most appropriately?)</i>	Ordinal	(Adler et al., 2000)
4.a-	Less than a high school graduate.		
4.b-	High school graduate, general education diploma, or some college.		
4.c-	College graduate or higher.		
4.	Social class origins—Job status of parents <i>(Which of the following categories describe your mother's/father's job most appropriately?)</i>	Ordinal	(Adler et al., 2000)
4.d-	Blue collar or service.		
4.e-	Clerical or self-employed.		
4.f-	Professional or managerial.		
4.	Social class origins—Family income <i>(How high do you estimate your family's annual income in your childhood?)</i>	Ordinal	(Adler et al., 2000)
4.g-	€ 0–20,000		
4.h-	€ 20,001–40,000		
4.i-	€ 40,001–60,000		
4.j-	€ 60,001–80,000		
4.k-	€ 80,001–100,000		
4.l-	€ 100,001–120,000		
4.m-	€ 120,001–140,000		
4.n-	€ 140,001–160,000		
4.o-	> € 160,000		

Table 3-7: Comparison of the hypothesized effects in the logit and probit models.

	Probit model				Logit model				Probit model		Logit model	
	Hybrid vs. Abstain		Spawning vs. Abstain		Hybrid vs. Abstain		Spawning vs. Abstain		Spawning vs. Hybrid		Spawning vs. Hybrid	
	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.
(Intercept)	-4.504	0.000	-3.735	0.000	-8.670	0.000	-6.684	0.000	1.707	0.074	2.986	0.068
Gender	-0.132	0.386	0.245	0.045	-0.250	0.379	0.434	0.047	0.493	0.012	0.877	0.009
Age	0.013	0.442	-0.003	0.814	0.033	0.280	-0.005	0.865	-0.018	0.390	-0.032	0.352
Migration background	0.271	0.104	0.156	0.235	0.556	0.062	0.310	0.172	0.060	0.775	0.065	0.853
End of studies	0.002	0.978	0.129	0.019	0.017	0.899	0.238	0.016	0.185	0.050	0.314	0.050
Entrepreneurial attitude	0.550	0.000	0.323	0.000	1.013	0.000	0.570	0.000	-0.313	0.001	-0.545	0.001
Entrepreneurial self-efficacy	0.235	0.011	0.124	0.056	0.455	0.009	0.201	0.085	-0.263	0.044	-0.453	0.042
Subjective norms	-0.158	0.045	0.143	0.017	-0.301	0.038	0.274	0.012	0.322	0.004	0.568	0.004
Social class origin	0.179	0.084	0.013	0.865	0.341	0.082	0.008	0.952	-0.272	0.035	-0.465	0.041
Agricultural and food sciences	0.609	0.173	-0.435	0.232	1.155	0.193	-0.760	0.255	-1.435	0.016	-2.466	0.016
Humanities	0.523	0.175	-0.403	0.089	1.079	0.171	-0.671	0.120	-0.796	0.086	-1.433	0.081
Medicine and health science	0.270	0.538	0.123	0.632	0.622	0.473	0.254	0.580	-0.573	0.256	-1.006	0.257
Engineering sciences	0.413	0.276	0.205	0.335	0.871	0.255	0.371	0.326	-0.466	0.287	-0.827	0.288
Art	1.026	0.038	0.093	0.796	1.914	0.046	0.244	0.700	-1.001	0.075	-1.665	0.093
Mathematics, natural sciences	0.501	0.182	-0.362	0.115	0.948	0.217	-0.635	0.133	-1.069	0.018	-1.849	0.022
Law, business, and social sciences	0.234	0.524	-0.120	0.535	0.585	0.434	-0.181	0.602	-0.395	0.339	-0.720	0.330
Sport sciences	0.964	0.060	-1.074	0.103	1.941	0.046	-1.780	0.128	-1.744	0.019	-3.107	0.024

Notes. Effects of the binary logit and probit models and the significance levels. Two-tailed significance tests.

4 Study 3 – I am what I am – How nascent entrepreneurs’ social identity affects their entrepreneurial self-efficacy⁷

Leif Brändle^{a)}, Elisabeth S.C. Berger ^{a)}, Stephan Golla ^{b)}, Andreas Kuckertz ^{a)}

a) University of Hohenheim

b) Fulda University of Applied Sciences

Abstract

Their perceived entrepreneurial self-efficacy has various implications for nascent entrepreneurs. Those effects range from causing overconfident entrepreneurs to set unattainable goals, to overchallenged entrepreneurs being deterred by complex opportunities. We propose that entrepreneurs’ social identity, which is related to the type of opportunity they pursue, might explain different levels of entrepreneurial self-efficacy. Our analysis of a sample of 753 nascent entrepreneurs shows that self-interested *Darwinian* entrepreneurs are more likely to feel competent, while *missionary* entrepreneurs trying to further a cause applicable to society at large do not demonstrate high levels of entrepreneurial self-efficacy.

Keywords: Entrepreneurial self-efficacy, nascent entrepreneurship, social identity theory, social entrepreneurship, entrepreneurship education

Declaration of interests: none.

Funding: this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

⁷ Presented at G-Forum, 2018; Published in the Journal of Business Venturing Insights: Brändle, L., Berger, E. S., Golla, S., & Kuckertz, A. (2018). I am what I am-How nascent entrepreneurs’ social identity affects their entrepreneurial self-efficacy. *Journal of Business Venturing Insights*, 9, 17-23. <https://doi.org/10.1016/j.jbvi.2017.12.001>.

4.1 Introduction

“[...] entrepreneurship, understood broadly, is heterogeneous, blooming, messy, and a sometimes glorious social tool that is widely available. [...] it can produce heroes of many kinds: of their own lives, families, communities, and myriad other contexts.” (Welter et al., 2017, p. 317).

Entrepreneurs are embedded in and shape their social environment in many ways. They affect a society's economic growth (Audretsch et al., 2006), enter politics (Obschonka and Fisch, 2017), transform established organizations (Dess & Lumpkin, 2005) and develop solutions that can bring progress to communities (McKeever et al., 2015) or society at large (Zahra et al., 2009). The diversity in entrepreneurial behavior reflects the heterogeneity of the roles and identities entrepreneurs apply (Gruber & Macmillan, 2017).

To be “heroes of many kinds” (Welter et al., 2017, p. 317), entrepreneurs need to attain basic skills in entrepreneurship. Those skills generally encompass competences applicable throughout the founding stages of searching, planning, marshaling, and implementing (Chen et al., 1998; Forbes, 2005; Liñán, 2008; Zhao et al., 2005). It is especially important for nascent entrepreneurs to experience entrepreneurial self-efficacy (ESE), since it helps them to perform better in uncertain environments by compensating their actual deficiencies in expertise with perceived entrepreneurial abilities (Engel et al., 2014). Nascent entrepreneurs need to be confident that the entrepreneurial opportunity is feasible, and that they are able to exploit it (Dimov, 2010). Some argue that nascent entrepreneurs who give up lack ESE (Drnovšek et al., 2010), the reasons possibly being determined by their risk preference and cognitive style (Barbosa et al., 2007), and the cultural environment they are embedded in (Hopp & Stephan, 2012). On the other hand, entrepreneurs can also experience an excess of ESE, which can contribute to venture failure and negative firm performance (Hayward et al., 2006). In their early stages, startups are strongly driven and shaped by the characteristics and vision of their founders, which should prompt us to investigate the social identity of those founders. It is thus important to determine whether nascent entrepreneurs are mainly driven by economic self-interest or are on a social mission to change the world. Doing so involves asking *who they are* and *who they want to be*.

This article studies the relationship between the social identity of nascent entrepreneurs (which is related to whether they pursue the social- or self-interest-oriented type of opportunity) and their perceived ESE (which is related to their subjectively perceived capacity to act upon a particular opportunity). The paper thus sets out to answer the following research question: Do

different social identities of nascent entrepreneurs lead to differences in their entrepreneurial self-efficacy?

This article aims to shed light on the issues that hinder nascent entrepreneurs from developing ESE or enable them to do so. We propose that one such determinant is the entrepreneur's social identity. Hierarchical regression analysis with data from 753 nascent entrepreneurs shows that entrepreneurs with Darwinian and communitarian social identities perceive they have higher levels of ESE, whereas nascent entrepreneurs identifying with a mission to change the world do not. This study aims to contribute to the existing literature in three ways: First, it establishes the need to consider an entrepreneur's social identity when measuring ESE. Second, it shows that differences in perceived ESE with regard to entrepreneurs' social identities tend to be rather subjective. Third, it speaks for the implementation of specific self-efficacy scales for the various social identities.

4.2 Social Identity and Self-efficacy in Nascent Entrepreneurship

Entrepreneurs either need to or want to distinguish themselves from other members of society (Shepherd & Haynie, 2009); however, they still experience the basic psychological need to belong to a group (Tajfel & Turner, 1986). According to social identity theory, people define themselves as being members of an in-group that has significantly different attributes from an out-group (Tajfel & Turner, 1979, 1986). In identifying with an in-group, people want to incorporate the positive attributes like success and status of the in-group and compare them to the perceived negative attributes of the out-group, which increases their self-esteem and can enhance self-efficacy (Abrams & Hogg, 1988; Stryker & Burke, 2000). Members of social groups evaluate activities by whether they are in line with an identity prototype, and are more likely to conduct activities that fit (Tajfel & Turner, 1979). The individual's social identity is expected to develop over a long period starting in early childhood and will be constantly questioned and refined over the course of a person's life (Fauchart & Gruber, 2011). Entrepreneurs' social identity has an impact on the type of opportunity they exploit (Wry & York, 2017; York et al. 2016), the strategic decisions they consider appropriate, and the type of value they create (Fauchart & Gruber, 2011). Accordingly, examining nascent entrepreneurs' social identity can illuminate hitherto unexplained variance in the firm creation process (Fauchart & Gruber, 2011; Powell & Baker, 2014). Entrepreneurs' basic social motivation, basis of self-evaluation, and frame of reference all shape their social identity and produce three different social identity types: Darwinians, communitarians, and missionaries (Fauchart &

Gruber, 2011). Darwinian entrepreneurs are driven by economic self-interest, define success as being a competent professional and see their frame of reference in competing firms. Communitarians intend to contribute to a group they strongly identify with, evaluate themselves based on whether they are true to similar others and act in the frame of reference of their community. Missionaries want to advance a cause by venture creation, define success as making the world a better place, and define their frame of reference as society at large (Fauchart & Gruber, 2011; Sieger et al., 2016a).

ESE is a critical concept in nascent entrepreneurship that addresses the question of whether entrepreneurs feel that they have the capacity to adequately respond to a particular entrepreneurial challenge. Social cognitive theory holds that the greater the entrepreneur's experience of accomplishment (enactive mastery), of vicarious learning (role modeling), of receiving positive feedback (social persuasion), and the stronger their perception that they are in a stable physical and emotional state, the stronger will be their ESE (Bandura, 1982, 1986; Boyd & Vozikis, 1994; Lent et al., 1994). While self-efficacy can be determined by asking if individuals perceive themselves to be able to perform a specific behavior, perceived controllability revolves around whether someone feels generally in control of the performance (or nonperformance) of a behavior (Ajzen, 2002). Controllability can be measured as a locus of control, and states the degree to which individuals feel their behavior is independent of external factors (Levenson, 1973; Sieger & Monsen, 2015). According to Ajzen (2002) self-efficacy and controllability are interrelated and together form the widely used construct *perceived behavioral control* (Ajzen, 1991). Entrepreneurs' perceptions of their ability to perform a specific behavior (or their ESE) will be adversely affected when they believe external forces deprive them of complete control of their behavior; in other words there is a lack of perceived controllability (Urbig & Monsen, 2012). It follows that nascent entrepreneurs who perceive they have an elevated level of controllability might experience stronger ESE, and the reverse should also apply.

The central tenet of the current research is, however, that those individuals who are driven primarily by economic self-interest are most likely to perceive the highest levels of ESE. Nascent entrepreneurs with a Darwinian type social identity are quite likely to experience enactive mastery, which flows from their view that being a competent professional constitutes success (Fauchart & Gruber, 2011). Such entrepreneurs would probably feel that status flows from applying solid management practices and thoughtfully conducting financial planning (Sieger et al., 2016a). Furthermore, nascent entrepreneurs' role models are less likely to be distant icons than they are to be people from the entrepreneurs' immediate environment (Bosma

et al., 2012). As the competitive Darwinian approach is well established in free market economies, the chances of an entrepreneur having a Darwinian role model in the family or the professional environment would seem to be quite high. Darwinian entrepreneurs are also likely to receive positive feedback from within their immediate environment, and to experience social encouragement through, for example, teachers and mentors (Zhao et al., 2005) because many business schools teach students how to win in a competitive environment. Accordingly, Darwinians may experience the social encouragement they need to nurture their ESE. Finally, Darwinians are less likely to experience negative emotions like anxiety because they only feel responsible for themselves (Sieger et al., 2016a). The ability to bypass anxiety makes issues like the fear of potential negative effects on stakeholders irrelevant, and the challenges ahead manageable. The basic skills expected of entrepreneurs are traditionally economic ones, which align well with the concept of a Darwinian social identity and its definition of success (Gruber and MacMillan, 2017). Accordingly, the more nascent entrepreneurs identify themselves as Darwinian entrepreneurs, the more likely it is that their perceived ESE will be high.

Communitarian nascent entrepreneurs are able to experience enactive mastery even before they get into the founding process, because they employ their prior knowledge to create a product or service (Fauchart & Gruber, 2011). Nascent entrepreneurs with a communitarian type of social identity may also be inspired by tangible role models from their immediate environment, because other members of the group they identify with are also likely to be advancing the interests of the group (Sieger et al., 2016a; Tajfel & Turner, 1986). Communitarian nascent entrepreneurs are not only influenced by the community they identify with but also feel responsible for it (Fauchart & Gruber, 2011). This might lead to emotional states of anxiety and lower levels of self-efficacy stemming from communitarians not wanting to disappoint the group of people they identify with and possibly lead to an ambiguous relationship between communitarian entrepreneurs' identity and their perceived ESE.

Missionary type nascent entrepreneurs would consider themselves successful if they are able to advance social justice, preserve the environment, or generally make the world a better place: they shoot for the moon by formulating the aspiration to play a role in changing how the world operates (Sieger et al., 2016a). Given these lofty expectations, missionary entrepreneurs are less likely to experience enactive mastery in the early founding process of their enterprises and thus may doubt the level of their ESE. As role models who successfully changed the world for the better are hard to find in the missionary entrepreneurs' close environment, they can only look up to distant icons who may not fulfill the function a role model from the immediate environment could (Bosma et al., 2012). Furthermore, even if ESE could be fostered among

missionary entrepreneurs by providing effective social entrepreneurship education (Smith & Woodworth, 2012), it may also prompt skepticism among teachers and mentors in classically-minded business schools and lead to a lack of positive feedback and less social encouragement. As missionary entrepreneurs are driven by the maxim of being highly responsible citizens of the world (Sieger et al., 2016a), it is very likely that their self-imposed responsibility leads to anxiety if they anticipate failing to meet that aspiration (Grant, 2008). The self-imposed burden to contribute to the progress of society can lead missionaries to feel small in the face of the challenges ahead. Additionally, the basic skills for entrepreneurial action are possibly not perceived as fitting the missionary entrepreneurs' identity, as they could be associated with the Darwinian out-group of entrepreneurs. Consequently, the more nascent entrepreneurs identify themselves with a missionary identity, the less likely they are to perceive they have elevated levels of ESE.

4.3 Material and Methods

4.3.1 Data Collection

The data for this study were retrieved from the "Global University Entrepreneurial Spirit Students' Survey" (GUESSS) which was conducted in summer 2016. This study focuses on the German sample, comprising data from 39 higher-education institutions. After removing participants with missing values, the final sample consists of 753 nascent entrepreneurs in German higher-education institutions. Scale variables were constructed using the average score of 7-point Likert items.

4.3.2 Measures

Five items for our dependent variable *entrepreneurial self-efficacy (ESE)* were drawn from prior studies (Chen et al., 1998; Forbes, 2005; Liñán, 2008; Zhao et al., 2005). Those items measure individuals' perceived competences in different entrepreneurial planning stages such as searching, planning, marshaling, and implementing, and also in different entrepreneurial domains such as those relating to innovation, marketing, management, finance, and risk-taking (Forbes, 2005). The Cronbach's alpha for ESE is 0.86.

Our independent variables Darwinian, communitarian, and missionary social identity are based on the entrepreneurs' social identity scale developed by Sieger et al. (2016a). Five items measure the entrepreneurs' basic social motivation, their basis for self-evaluation and their frame of reference. The Cronbach's alpha for the Darwinian social identity is 0.80, for the

communitarian social identity 0.84, and for the missionary social identity 0.89. In contrast to ESE, which explains the individually-perceived competence at performing a specific entrepreneurial task, the independent variable *perceived controllability* states whether the individual generally perceives he or she is in control of his or her actions. Three items are derived from Levenson (1973) and return a Cronbach's alpha of 0.88.

Age and gender, in line with other GUESSS studies (Laspita et al., 2012; Sieger & Monsen, 2015; Zellweger et al., 2011), are used as control variables. Males were coded as 0 and females as 1. Prior research suggests gender might influence ESE (Wilson et al., 2007). Entrepreneurial learning is used as a control variable because it is reported to be a major determinant of ESE (Zhao et al., 2005). It is measured with five items from Johannisson (1991) and Souitaris et al. (2007), and records a Cronbach's alpha of 0.89. According to social cognitive theory (Bandura, 1986), past accomplishments in an area of interest lead to a greater degree of perceived self-efficacy. We therefore included entrepreneurial activities undertaken and being a serial entrepreneur as control variables on the grounds they might raise perceived ESE (Hockerts, 2017). Entrepreneurial activity was measured based on a list of startup activities drawn from the Global Entrepreneurship Monitor and the Panel Study of Entrepreneurial Dynamics as applied by Shirokova and colleagues (2016). Serial entrepreneurs are coded as 1 and first-time entrepreneurs as 0. Table 4-1 summarizes the descriptive statistics and correlations of all considered variables.

4.4 Results

To assess the effect of nascent entrepreneurs' social identity on ESE, the research team adopted a hierarchical OLS regression approach. Starting from a baseline model, researchers successively enriched the model with different bundles of influencing factors that might explain the dependent variable ESE. The results with regard to the control variables are listed in Table 4-2 and suggest that entrepreneurial learning has a small but significant positive effect on ESE ($b=.07, p<.001$), and that the past startup activities of nascent entrepreneurs have a significant positive effect on their ESE ($b=.480, p<.01$). In line with our theoretical reasoning, the results show that (1) nascent entrepreneurs' perceived controllability is significantly related to their ESE ($b=.30, p<.001$), (2) there is a significant positive relationship between having a Darwinian social identity and nascent entrepreneurs' ESE ($b=.23, p<.001$), (3) there is a significant positive relationship between having a communitarian social identity and nascent entrepreneurs' ESE ($b=.110, p<.001$), and (4) there is no significant relationship between having a missionary social identity and nascent entrepreneurs' ESE ($b=.028, p>.1$).

Additionally, moderation analysis (Figure 4-1) shows that the positive relation between the communitarian social identity and ESE is negatively moderated by the nascent entrepreneurs' perceived controllability ($b = -.097$ $p < .05$). This moderation is not significant for the Darwinian and missionary social identities. The final model including all variables and interaction effects explains 39.9 percent of the variance in the dependent variable.

4.5 Discussion

This study's results extend the ESE literature by examining how the affiliation of nascent entrepreneurs to Darwinian, communitarian, or missionary social identities affects their ESE. In so doing, the study shows that identifying with the concept of being an entrepreneur does not automatically lead to stronger perceptions of ESE. The findings indicate that when measuring ESE, one should consider the entrepreneurs' social identity to better understand the different levels of ESE, especially among nascent entrepreneurs. The study also enhances social cognitive theory by proposing a link between entrepreneurs' social identities (Fauchart & Gruber, 2011) and the specific determinants of self-efficacy: enactive mastery, role modeling, social persuasion, physical, and emotional state (Bandura, 1986).

The fact that among nascent entrepreneurs the Darwinian and communitarian social identities positively affect ESE, whereas a missionary social identity does not, suggests that nascent entrepreneurs who identify with a Darwinian or communitarian understanding of entrepreneurship are more likely to feel competent in terms of their entrepreneurial skills. Nascent entrepreneurs who are on a mission to tackle a societal problem or to make the world a better place, for instance, do not experience higher levels of ESE. We suggest that the reasons for differences in the level of perceived ESE among nascent entrepreneurs with different social identities lie either with the ease or difficulty they have in experiencing accomplishments, managing vicarious learning, receiving positive feedback, and maintaining a stable physical and emotional state. That reasoning is in line with key aspects of social cognitive theory (Bandura, 1986). We suggest further research empirically assesses this relationship. The results of the current study, however, suggest that the reason for these differences does not lie in actual deficits of expertise, because they do not stem from differences in entrepreneurial learning and entrepreneurial experience. Even if entrepreneurs identifying with a Darwinian social identity self-select themselves into economic fields of study, achieve a higher level of entrepreneurial learning, and are more likely to have entrepreneurial experience, the differences in their ESE compared to those identifying with a communitarian or missionary identity are not explained

Table 4-1: Descriptive statistics and correlations.

Variable	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Entrepreneurial self-efficacy	5.291	.978	-/-								
2. Age	25.790	4.017	.055	-/-							
3. Gender (0=male / 1=female)	.327	.469	-.098**	.031	-/-						
4. Entrepreneurial Learning	3.806	1.518	.298**	.017	-.020	-/-					
5. Entrepreneurial Activity	.232	.183	.198**	.068	-.059	.140**	-/-				
6. Serial Entrepreneur (0=no /1=yes)	.06	.244	0.068	.169**	-.089*	.000	.100**	-/-			
7. Darwinian	5.103	1.137	.457**	.029	-.106**	.263**	.108**	.083*	-/-		
8. Communitarian	4.920	1.342	.340**	.061	.060	.218**	.114**	.050	.308**	-/-	
9. Missionary	5.006	1.468	.259**	.016	.033	.183**	.015	.029	.215**	.561**	-/-
10. Perceived controllability	5.593	.960	.448**	-.034	-.056	.215**	.132**	-.052	.254**	.161**	.142**

Table 4-2: Hierarchical regression and moderation effects on entrepreneurial self-efficacy (ESE).

Variables	Model 1	Model 2	Model 3
Constant	2.157***	1.039***	1.210***
<i>Control variables</i>			
Age	0.012	0.009	0.009
Gender	-0.130*	-0.110	-0.117
Entrepreneurial Learning	0.127***	0.066***	0.071***
Entrepreneurial Activity	0.559***	0.462**	0.480**
Serial Entrepreneur	0.254*	0.131	0.138
Perceived Controllability	0.400***	0.319***	0.295***
<i>Main effects</i>			
Darwinian Social Identity		0.238***	0.230***
Communitarian Social Identity		0.101***	0.110***
Missionary Social Identity		0.038	0.028
<i>Moderation effects</i>			
Darwinian*Perceived Controllability			-0.041
Communitarian*Perceived Controllability			-0.097*
Missionary*Perceived Controllability			0.039
<i>Model Fit</i>			
R ²	0.268	0.386	0.399
R ² change		0.118	0.013
Dependent Variable: Entrepreneurial Self-Efficacy			
***p<0.001, **p<0.01, *p<0.05. Significance levels are two-tailed.			
N=753			

by these factors. We therefore conclude that differences in ESE among entrepreneurs identifying with a Darwinian, communitarian, or a missionary social identity tend to be first and foremost perceived differences and do not necessarily reflect real differences in entrepreneurial skills. Entrepreneurs perceiving levels of competency that they do not have is something already discussed in literature and is most-often linked with venture failure (Hayward et al., 2006). Being overconfident increases the likelihood of entrepreneurs setting unattainable goals and then presiding over negative firm performance (Baron et al., 2016). Our findings suggest that those with a Darwinian social identity are especially likely to be

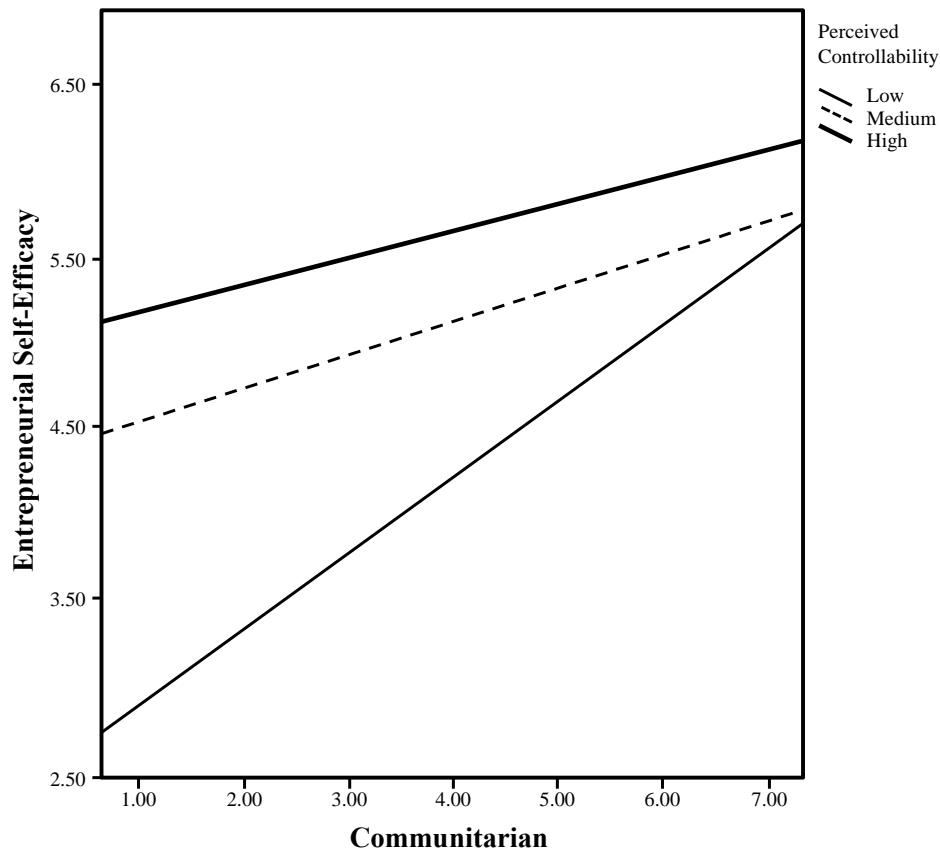


Figure 4-1: Interaction of perceived controllability and entrepreneurs' communitarian social identity.

overconfident, because regardless of their entrepreneurial learning and experience such people perceive themselves as possessing strong self-efficacy. Future research could measure whether entrepreneurs with different social identities are more likely to perceive ESE when they are asked to describe their competence in skills specifically related to their identity. We suppose that for example identifying with a missionary social identity would imply a person has a higher level of social ESE (Hockerts, 2015, 2017). Nevertheless, even if this were true, we suggest that in practice missionary entrepreneurs should acquire the basic entrepreneurial skills in searching, planning, marshaling, and implementing if they want to succeed. Acting on the triple bottom line, missionary entrepreneurs tend to maximize economic and social and ecological value (Cohen & Winn, 2007; Schaltegger & Wagner, 2011). This means that they should not only perceive but also truly be prepared to master challenges of many kinds to face the grand challenges of our time.

4.6 Conclusion

This paper was motivated by the question of whether entrepreneurs with a Darwinian social identity are more likely to perceive they possess higher levels of ESE. By using a social identity perspective, this study shows that nascent entrepreneurs who identify with a self-interested understanding of entrepreneurship, feel more capable of applying entrepreneurial skills than their counterparts; whereas entrepreneurs who identify with the mission to change the world and target society at large are not likely to experience higher levels of ESE. Our results show that these differences in ESE do not result from different levels of experience or learning but are instead deeply rooted in entrepreneurs' social identity.

Acknowledgments: We thank Marc Gruber, EPFL, for valuable comments on an earlier version of this paper as well as the editor and the anonymous reviewers for their constructive and helpful suggestions.

5 Study 4 – How entrepreneurial orientation transforms social identities into performance ⁸

Leif Brändle^{a)}, Stephan Golla^{b)}, Andreas Kuckertz^{c)}

a) University of Hohenheim

b) Fulda University of Applied Sciences

Purpose – Entrepreneurial orientation (EO) has been viewed almost exclusively through the lens of profit-driven firms. However, individuals engage in entrepreneurship not only for economic reasons but also to enrich a community or to advance society. Drawing on upper echelons theory, the present study addresses this issue by proposing that founders' social identities shape the strategic choices of their ventures.

Design/methodology/approach – Drawing on the data from 318 founders in the early stages of their entrepreneurial activity, the study applies partial least squares structural equation modeling to empirically test whether founders' social identities influence their ventures' EO.

Findings - The findings of the current research show that founders whose dominant purpose is the creation of value for others are more likely to launch ventures oriented toward innovation. On the other hand, ventures of founders driven by economic self-interest accept more risk, which leads to higher performance outcomes on the enterprise, community, and societal levels.

Originality/value – The study enhances the EO discussion by adding social identity theory as a way to explain different levels of EO in firms and answers the call for more diversity in EO–performance measurement by applying specific outcomes on the enterprise, community, and societal level to investigate whether a firm's EO leads to the desired outcomes.

Keywords: Founders' social identity; Entrepreneurial orientation; Upper Echelons; Social Entrepreneurship

Declaration of interests: none.

⁸ Best Paper Award (Social Entrepreneurship) at G-Forum, 2019 in Stuttgart, Germany; Presented at the Academy of Management Specialized Conference 2019 in Tel-Aviv, Israel; Published in the International Journal of Entrepreneurial Behavior & Research: Brändle, L., Golla, S., & Kuckertz, A. (2019). How entrepreneurial orientation translates social identities into performance. *International Journal of Entrepreneurial Behavior & Research*, 25(7), 1433–1451. <https://doi.org/10.1108/IJEBr-12-2018-0804>. This article is © Emerald Publishing Limited and permission has been granted for this version to appear here: <https://opus.uni-hohenheim.de/>. Emerald does not grant permission for this article to be further copied/distributed or hosted elsewhere without the express permission from Emerald Publishing Limited.

5.1 Introduction

Entrepreneurial orientation (EO) is defined as, “behavioral patterns whose presence enables entrepreneurship to be recognized as a defining attribute of the firm” (Covin & Lumpkin, 2011, p. 858) and is a widely discussed construct in entrepreneurship research addressed in countless scientific articles since its emergence in the strategy-making literature (Covin & Slevin, 1989, 1991; Miller, 1983).

A firm’s degree of innovativeness, risk-taking and proactiveness in its processes, practices, and decision-making styles reflect that firm’s EO (Lumpkin & Dess, 1996). Consequently, a stream of literature deals with the impact of the firm’s EO on its performance and finds support for the presence of a positive relationship between the two (e.g., the meta-analysis by Rauch et al., 2009). Surprisingly, EO as a defining attribute of an entrepreneurial firm and its consequences has almost exclusively been viewed from the perspective of profit-driven firms (Martens et al., 2016). However, the entrepreneurship literature also encompasses emerging phenomena like social entrepreneurship and sustainable entrepreneurship (Dean & McMullen, 2007; Mair & Martí, 2006). Nevertheless, little is known of whether the premise of a firm’s EO applies for founders driven by various identities representing the heterogeneity of entrepreneurs and their organizations (Welter et al., 2017).

This is also surprising since we already know from upper echelons theory (UET) that it is the individual with decision-making power that drives the organization’s strategic choices and performance levels (Hambrick & Mason, 1984). The need for further research in upper echelons’ psychological characteristics has already been put forward by Hambrick (2007, p. 335): “Granted the use of demographic indicators leaves us at a loss as to the real psychological and social processes that are driving executive behavior [...]” However, research about psychological factors as antecedents of EO is still scarce (Engelen et al., 2015; Simsek et al., 2010) but is needed to reveal who founders really are.

Individuals are guided by their various concepts of self, defining who they are and who they want to be: These concepts of self, in other words their identities, define their values, beliefs and most importantly lead to behavior that is congruent with their identity prototype (Chasserio et al., 2014; Gruber & MacMillan, 2017; Hogg & Terry, 2000). Some founders launch ventures not only to serve their economic self-interest, but also because they are determined to enrich their community or to change the world for the better (Fauchart & Gruber, 2011). According to upper echelons theory, the experience, values and personality of powerful individuals in organizations predict strategic choices and outcomes on the firm level (Hambrick, 2007). It follows that founders’ social identity (SI) should shape their firms’ EO, which in turn

affects the achievement of desired outcomes. Therefore, the goal of this study is to investigate whether and how entrepreneurial orientation translates founders' social identities into desired outcomes and to answer the following research questions: Does the EO of a new venture differ according to the divergent social identities of the founders and does the firm's EO contribute to delivering the founders' desired outcomes?

The current study aims to contribute to the existing literature in three ways: First, it contributes to the upper echelons discussion by for the first time empirically linking decision makers' social identity to their firms' entrepreneurial orientation and performance. Second, it enhances the EO discussion by adding social identity theory as a way to explain different levels of EO in firms and thus acknowledges heterogeneity in entrepreneurship research and practice. Third, it answers the call for more diversity in EO–performance measurement by linking founders' social identities to specific performance measurements on the enterprise, community, and societal levels.

This paper is structured as follows. The next section introduces the relevant theory, develops hypotheses, and explains the conceptual framework. There follows an outline of the applied methodology and the results. Finally, the paper closes with a discussion of the results and their implications for further research and practice.

5.2 Theory

Entrepreneurship as the exploration and exploitation of opportunities (Shane & Venkataraman, 2000) is a phenomenon involving actors operating in highly uncertain environments. These uncertain environments lead to situations in which results are not knowable ex-ante which makes decisions subject to interpretation, and leads entrepreneurs to face situations of bounded rationality (March & Simon, 1958; Mischel, 1977). Those who explore and exploit opportunities in uncertain environments can face these uncertain situations of bounded rationality with specific entrepreneurial decision-making logics (Sarasvathy, 2001) or make decisions based upon their background characteristics, that is, their experiences, values, and personalities, as proposed by UET (Hambrick, 2007; Hambrick & Mason, 1984). According to UET, decision makers' characteristics and psychological processes especially appear to influence their organizations' strategic choices and outcomes when 1) there is uncertainty about the decisions' outcomes which leads to situations of bounded rationality and 2) when decision makers experience less constraints in maneuvering their organizations (Hambrick, 2007; Hambrick & Mason, 1984). Given that new firms' - especially early in their existence - act in highly uncertain environments and decisions are mainly driven by their

founders, the answer to the question of who those founders are and who they want to be might reveal why their firms act as they do.

However, decision makers' psychological and social processes often remain in the "black box" although they are referred to as promising avenues to reveal unexplained variance in explaining their organizations' behavior (Hambrick, 2007). Regarding the social identity of decision makers might shed light on these hidden processes of upper echelons and contribute to the discussion about the influence of psychological characteristics and processes of decision makers on their firms' strategic choices and outcomes. Hence, by following the framework of the UET (Figure 5-1) we develop our hypotheses illustrating the impact of decision makers' psychological characteristics (their social identity) on the strategic choices of their organizations (their entrepreneurial orientation) which in turn affect the organizations' outcomes, that is, their enterprise, community, and societal performance.

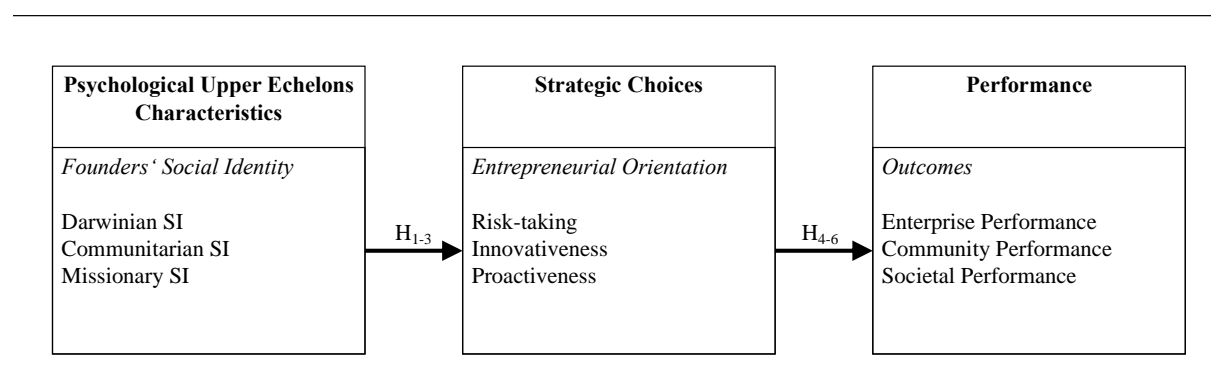


Figure 5-1: An Upper Echelons perspective of nascent ventures following Hambrick and Mason (1984, p. 198).

5.2.1 Founders' Social Identity

In the process of defining their self, individuals identify so-called in-groups with which they want to be associated (Tajfel & Turner, 1986). The characteristics of in-groups are typically positively distinguished from characteristics of out-groups, therewith raising the in-groups members' individually perceived self-worth (Tajfel & Turner, 1979; Turner et al., 1987). As individuals strive to act in accordance with their in-groups' identity prototype, their behavior can be predicted by their social identity (Hogg et al., 1995; Stets & Burke, 2000).

Founders' social identity theory considers the individuals' basic motivation, frame of reference and basis of self-evaluation as systematical difference to characterize founders on three levels of self-construal as Darwinians, communitarians, or missionaries (Brewer &

Gardner, 1996; Fauchart & Gruber, 2011): Darwinian founders are motivated by their economic self-interest, see competitors as their frame of reference and evaluate themselves by reference to their professionalism. Communitarian founders are driven by the concern for known others and evaluate their entrepreneurial activities by reference to their authenticity within a community. Missionaries want to change the world for the better, reference society and perceive the positive change they achieve as the basis of self-evaluation. However, there is evidence that some founders should be categorized under more than one social identity, resulting in hybrid identities that can be measured by the extent to which the founders identify with the different concepts of self (Sieger et al., 2016a). Understanding which meanings founders relate to their new firms and investigating their identity adds new perspectives to the discussion on entrepreneurial behavior (Gruber & MacMillan, 2017), entrepreneurial decision-making (de la Cruz et al., 2018), entrepreneurial self-efficacy (Brändle et al., 2018), organizational processes in nascent ventures (Powell & Baker, 2017), and the formation of strategic choices (Powell & Baker, 2014). The latter play a decisive role in distinguishing entrepreneurial firms from conventional ones and are dealt with in the following section.

5.2.2 Entrepreneurial Orientation

The entrepreneurial orientation of a firm indicates how innovatively and proactively it operates and how much it sanctions risk-taking. EO also indicates an entrepreneurial behavioral pattern in a firm's processes, practices, and decision-making styles (Covin & Lumpkin, 2011; Lumpkin & Dess, 1996).

The extent of a firm's orientation to risk-taking indicates whether it seizes opportunities cautiously or makes bold steps in the hope of receiving high returns (Covin & Slevin, 1989; Miller, 1983). In the case of bold steps, which usually involve the commitment of a high volume of resources, the firm risks experiencing costly throwbacks but also maximizes the chance to seize opportunities with high returns (Lumpkin & Dess, 1996). Whether a firm acts innovatively can be observed by the way it acts outside of the realm of common practice and in it experimentally applying new methods to creatively develop new products, services, and processes that have the potential to disrupt current solutions (Lumpkin & Dess, 1996). The firm's propensity to invest in innovations, introduce significant changes in product or service lines, and to bring radically new products and services to new markets displays its innovativeness (Covin & Slevin, 1989). Proactiveness is about showing initiative, anticipating future problems, and initiating actions so as to be the first to solve them. Proactive firms lead

rather than follow when it comes to new processes, technologies, products, and services (Covin & Slevin, 1989; Lumpkin & Dess, 1996).

Originating as a firm-level construct in the strategy-making literature (Covin & Slevin, 1989, 1991; Miller, 1983), EO is a topic that is widely discussed among entrepreneurship scholars. However, with regard to the antecedents of EO and its subdimensions, only a few studies investigate the psychological characteristics of decision makers on their firms' EO. Soininen et al. (2013) show how decision makers' values influence their firms' EO, Engelen et al. (2015) examine the effect of CEOs' overconfidence, Simsek et al. (2010) investigate CEOs' self-evaluation and Stewart et al. (2016) illustrate the relevance of entrepreneurs' role identity as an antecedent of a firm's risk taking, innovativeness, and proactiveness.

The consequences of a firm's EO in terms of its performance have been investigated by researchers and practitioners all over the world. One meta-analysis bundles the studies conducted in the multidimensional and unidimensional EO–performance relationship and concludes that there is a significant positive impact (Rauch et al., 2009). Other research investigates the drivers and boundaries of this relationship (Covin et al., 2006; Khedhaouria et al., 2015; Kollmann & Stöckmann, 2014; Lumpkin & Dess, 2001; Stam & Elfring, 2008; Wang, 2008). However, studies almost exclusively focus on financial outcomes and a profit-driven perspective when investigating the EO–performance relationship (Rauch et al., 2009). Exceptions are the development of a social entrepreneurship orientation scale (Kraus et al., 2017), the investigation of EO in the nonprofit context (Lurtz & Kreutzer, 2017; Morris et al., 2011) and the conceptualization of differences in the entrepreneurial process for social enterprises (Lumpkin et al., 2013). On the latter subject, Lumpkin et al. (2013) raise the question of whether there are differences in the subdimensions of the entrepreneurial orientation of commercial and social enterprises and if so, how that might affect outcomes. The authors discuss arguments around whether such differences are tangible and conclude that entrepreneurial processes for social enterprises are likely to differ from those of commercial enterprises particularly because of the presence of multiple stakeholders. As the founders' social identity reveals whether they start ventures out of economic self-interest or to create value for others, this might help us to empirically test the conceptual claim of Lumpkin et al. (2013) by regarding subdimensions of the EO and multi-level outcomes via a UET perspective.

5.2.3 The relationship between founders' social identity and EO

According to UET, psychological characteristics of decision makers affect their organizations' strategic choices (Hambrick & Mason, 1984). CEO's overconfidence for

example increases their organizations' EO (Engelen et al., 2015) and their higher core self-evaluation positively shapes their organizations' EO (Simsek et al., 2010). Founders' social identity influence their ventures' strategic choices (Powell & Baker, 2014). Below we elaborate on how founders' social identity affects different dimensions of a firms' EO.

Darwinian social identity and EO

Darwinian founders are motivated by their economic self-interest and want to increase their personal wealth. They apply solid business practices and are able to professionally assess risks (Fauchart & Gruber, 2011). Risk-taking is accompanied by the chance of high returns that are at the heart of the Darwinian founders' logic. As Darwinian founders are oriented toward their self, their decision logics do not take account of potential risks for other stakeholders and therefore they perceive less risk than might actually be present (Hayward et al., 2006). However, the resource-intensity of radical innovations and the solution of unknown customer needs contradict the traditional business practices of Darwinian founders:

[...] their pursuit of only “professional” approaches and their strong profit and growth orientations lead them to discard some market segments, some types of production processes, and more radical innovations. (Fauchart & Gruber, 2011, p. 952)

Founders with a Darwinian social identity evaluate their success by comparing their business practices with those of their competitors and thus focusing on traditional management practices that are largely designed to improve efficiency rather than on radical new ways of doing business (Fauchart & Gruber, 2011). As their only frame of reference is their competitors and they tend to protect instead of exchange knowledge, they lack input from a variety of stakeholders that would help determine innovative ways of doing business (Lumpkin et al., 2013).

Nonetheless, when they identify a window of opportunity to seize high profits as a first mover in a given market, they might take the lead and become proactive (Lieberman & Montgomery, 1988). Their highly competitive approach (Fauchart & Gruber, 2011) drives them to lead rather than follow their competitors. Therefore,

H₁. Founders' Darwinian social identity affects their firms' orientation toward a) risk-taking positively b) innovativeness negatively, and c) proactiveness positively.

Communitarian social identity and EO

Founders with a communitarian social identity are motivated by the concern of the community they are embedded in and base their self-evaluation on whether they are viewed as truly helpful within their community (Fauchart & Gruber, 2011). They might connect failures in their venture with personal loss of authenticity within the community and thus found more risk-averse firms. Their mission to find useful solutions to specific problems within their community might foster a motivating and innovative climate within the firm (Fauchart & Gruber, 2011; Lumpkin et al., 2013; McDonald, 2007). Based on a clear mission, founders with a communitarian social identity tend to address new customer needs and apply uncommon business methods making their firms more innovative (Fauchart & Gruber, 2011). The exchange with the community as their frame of reference helps communitarian founders to receive various inputs to increase creativity in the search for new combinations and to become proactive by identifying future opportunities early (Lumpkin et al., 2013). Communitarian founders might associate a sense of urgency with the solution of their community's problems and therefore take the initiative (Lumpkin et al., 2013). Additionally, the identified opportunities are often derived from their own needs (Fauchart & Gruber, 2011) and might therefore be dealt with in a highly self-starting, proactive way. Therefore:

H2. Founders' communitarian social identity affects their firms' orientation toward a) risk-taking negatively b) innovativeness positively, and c) proactiveness positively.

Missionary social identity and EO

Missionary founders are on a mission to change the world for the better, thereby addressing an unsolved societal problem. An accommodation of high risk runs contrary to being a role model of sustainable and social friendly business practices (Morris et al., 2011; Weerawardena & Mort, 2006). However, in order to achieve their mission to advance society at large founders accept considerable uncertainty and financial resources that involve high risks to their firms (Lumpkin et al., 2013).

Founders with a missionary social identity evaluate their success based upon their impact on making the world a better place and thus face complex problems and limited resources that force them to attempt innovative ways to find new solutions (Morris et al., 2011; Wiklund & Shepherd, 2005). As their frame of reference is society, missionary founders pursue a multiple stakeholder approach that helps them identify future opportunities but also drives them to serve several customer segments (Fauchart & Gruber, 2011). Fulfilling the needs and considering the interests of several heterogeneous groups makes new combinations and

innovative approaches necessary (Lumpkin et al., 2013). Additionally, their clear social mission has the potential to nurture a motivating, innovative climate within the firm (McDonald, 2007). Furthermore, their aspiration to be role models for sustainable business practices and solutions drives them to take a proactive role and introduce innovative social and business practices (Fauchart & Gruber, 2011; Morris et al., 2011). The awareness of a pressing societal problem might create a sense of urgency within the firm and prompt a proactive orientation (Lumpkin et al., 2013). Therefore:

H3. Founders' missionary social identity positively affects their firms' orientation toward a) risk-taking b) innovativeness, and c) proactiveness.

5.2.4 The relationship between EO and outcomes on the firm, community, and societal levels

Upper echelons theory (UET) predicts that decision makers' characteristics influence their organizations' performance through their strategic choices (Hambrick & Mason, 1984). Accordingly, a firm's EO affects its firm performance (Rauch et al., 2009) and the dimensions of EO have different effects on social outcomes (Lumpkin et al., 2013). Below we propose that the firms' EO dimensions influence outcomes flowing from founders' social identity in different ways.

Risk-taking and outcomes on the enterprise, community, and societal levels

A firm that is oriented toward risk-taking acts boldly and maximizes the probability of high returns, while simultaneously accepting the possible negative consequences (Covin & Slevin, 1989). Exploring opportunities without knowing whether outcomes will ultimately compensate for the resources expended is a characteristic behavior of entrepreneurial firms. It gives them a decisive competitive advantage since at some point entrepreneurial firms discover fruitful opportunities that others might overlook or are too cautious to explore. In the short term, taking risks as a new firm might even be one of the preconditions to successfully compete against resource-rich established firms and to enter markets. Early financial success on the enterprise level might thus be related to the degree of risk a firm is willing to take. Furthermore, firms trying to create value in a community often address new customer needs (Fauchart & Gruber, 2011) that can only be explored by taking the risk of not knowing whether a solution to the community's need can be found. However, without taking the risk of exploring possible solutions to new needs, they will never be addressed. Therefore, new firms' orientation toward risk-taking might also create value for communities with unresolved problems. To achieve

changes on a societal level, bold steps might be required. However, social enterprises that are oriented toward risk-taking might jeopardize their social mission in the long run (Weerawardena & Mort, 2006). Nevertheless, risk-taking also means scaling solutions to unknown segments, which might strengthen the value created for society (Lumpkin et al., 2013). Therefore:

H4. Firms' orientation toward risk taking positively affects its early-stage outcomes on the a) enterprise level, b) community level, and c) societal level.

Innovativeness and outcomes on the enterprise, community, and societal levels

Innovative firms invest heavily in research and development and are characterized by a climate of experimentation and creativity that fosters novel solutions (Covin & Slevin, 1989). These investments usually pay off in the long term, but have detrimental effects on the firm's financial performance in the short term. Supporting a community as a firm involves exchanging knowledge and finding solutions to meet new customer needs (Fauchart & Gruber, 2011). The more firms engage in accumulating new knowledge and developing new solutions, the more the community might be enriched. Furthermore, adding value on a societal level involves dealing with the complexity involved with multiple stakeholders and deep-seated problems. Solving these problems without prioritizing profit generation is related to difficulties in acquiring the required funding (Weerawardena & Mort, 2006). Therefore, innovative approaches to find new combinations of scarce resources to advance a cause for society might be required. Social enterprises are rarely able to internalize the positive externalities they generate into their pricing, particularly early in their existence. Consequently, they have to carry additional costs to create awareness of the additional societal value they create (Santos, 2012). Innovative ways to bootstrap resources and acquire funding might therefore foster their capacity to create value on the societal level. Therefore:

H5. Firms' orientation toward innovativeness affects its early-stage outcomes a) negatively on the enterprise level, b) positively on the community level, and c) positively on the societal level.

Proactiveness and outcomes on the enterprise, community, and societal levels

Proactive firms use their capabilities to identify future opportunities, to take the initiative and take the lead in introducing new products or services (Covin & Slevin, 1989; Lumpkin & Dess, 2001). Proactiveness is related to the heightened entrepreneurial alertness through which entrepreneurs show greater sensitivity for their environment than their peers,

which makes them more likely to identify and develop opportunities (Ardichvili et al., 2003; Gaglio & Katz, 2001). First movers can reap high prices, especially early in the product life cycle, whereas prices fall and margins drop as soon as additional players enter the market (Lieberman & Montgomery, 1988). Furthermore, proactive firms might spearhead the discussion within a community and foster an exchange of knowledge and acquire valuable resources to maintain their leading role (Lieberman & Montgomery, 1998). To be the first to introduce new products or services requires rapid innovation cycles that might imply paying little regard to the needs of multiple stakeholders, and thus might decrease the value for society (Lumpkin et al., 2013). Alternatively, being perceived as the lead firm addressing a societal problem also enables social enterprises to acquire relevant resources and talent and to establish cooperation with other businesses and political actors to enhance their social value (Lumpkin et al., 2013). Therefore:

H₆. Firms' orientation toward proactiveness positively affects its early-stage outcomes on the a) enterprise level, b) community level, and c) societal level.

5.3 Method

5.3.1 Data Collection

The data for this study were retrieved from the *Global University Entrepreneurial Spirit Students' Survey* (GUESSS) conducted in summer 2016. This study focuses on the German sample, comprising data from 39 higher-education institutions collected through an online survey. After removing participants with missing values and founders beyond early-stage entrepreneurial activity with businesses older than 3.5 years (as in GEM, 2018), the final sample consists of 318 active early-stage founders in German higher-education institutions (Table 5-1). The founders are on average 26.1 years old, 36.5% are female, 56.3% have started a business that is at the point of observation up to 1.5 years old. With regard to economic sectors, the founders are mainly active in advertising, design, marketing (21.4%), and information technology (13.8%). Most of the founders do not yet have any full-time employees (69.5%), some have up to two (23.3%), and very few have more than two employees (7.2%).

Data collection was based on self-reporting so the authors tested for the existence of common method bias (Podsakoff et al., 2003). Results of Harman's classic one-factor test show that there is neither a one-factor solution nor is a majority of the variables' variance explained by only one factor; the largest of the identified factors accounts for just 31% of the variance (Podsakoff & Organ, 1986). Given that the classic one-factor test can only be a first indication, as it has been criticized widely, an additional full collinearity test finds no or minor common

Table 5-1: Respondents' descriptive statistics.

	N	%
<i>Respondent's age</i>		
22 or below	62	19.5%
23– 26	124	39.0%
27–30	93	29.2%
31 or older	39	12.3%
<i>Gender</i>		
Female	116	36.5%
Male	202	63.5%
<i>Full-time employees</i>		
0	221	69.5%
1–2	74	23.3%
3–4	15	4.7%
More than 4	8	2.5%
<i>Firm age</i>		
0 – 0.5 years	69	21.7%
0.5–1.5 years	110	34.6%
1.5–2.5 years	83	26.1%
2.5–3.5 years	56	17.6%
<i>Economic sector</i>		
Advertising / Design / Marketing	68	21.4%
Architecture and Engineering	13	4.1%
Construction	12	3.8%
Consulting (HR, law, management, tax)	17	5.3%
Education and training	23	7.2%
Financial services	10	3.1%
Human health and social work activities	8	2.5%
Information technology and communication	44	13.8%
Manufacturing	6	1.9%
Tourism and leisure	26	8.2%
Trade (wholesale/retail)	27	8.5%
Other services (e.g., transportation)	17	5.3%
Other	47	14.8%

method bias as most factor-level variance inflation factors are smaller than 3.3 and all factors are smaller than 5 (Kock, 2015; Kock & Lynn, 2012). Our sample size of 318 participants clearly meets the required number of cases to run our hypothesized model with a partial-least-square (PLS) approach (Chin, 1998).

5.3.2 Measures

The hypothesized model consists of nine variables: three independent (Darwinian social identity, communitarian social identity, and missionary social identity), three mediating (risk-taking, innovativeness, and proactiveness) and three dependent (enterprise performance, community performance, and societal performance) latent variables (Figure 5-1). Additionally, control variables on the individual, firm and environment level are part of the analysis. Single items were measured with 7-point Likert scales.

The independent latent variables Darwinian, communitarian, and missionary social identity are based on the entrepreneurs' social identity scale developed by Sieger et al. (2016b) and originally conceptualized by Fauchart and Gruber (2011). Five items measure the entrepreneurs' basic social motivation, their basis of self-evaluation, and their frame of reference.

To measure the mediating variables risk-taking, innovativeness, and proactiveness, the Covin and Slevin (1989) EO scale with nine items in total and three items per subdimension was applied. On the basis of the findings of Lumpkin and Dess (2001) one proactiveness item from the original scale, namely *"Typically adopts a very competitive 'undo-the competitors' posture"* was replaced with the item *"A strong tendency to be ahead of other competitors in introducing novel ideas or products"* since the latter displays better fit with the proactiveness subdimension (Kollmann & Stöckmann, 2014; Stam & Elfring, 2008).

Enterprise performance is the "degree to which enterprises create economic benefits by significantly outperforming competitors" which refers to the motivation, self-evaluation, and frame of reference of founders with a Darwinian social identity (Fauchart & Gruber, 2011). The measures are based on the performance measurement of Eddleston et al. (2008) and cover founders' self-reports about profit, sales, market share, job creation, and personal wealth (Sieger, et al., 2016b).

Community performance is "the degree to which enterprises are perceived as authentic within a community of target customers and the degree to which mutual benefits between the enterprise and the target customers are being established" which builds upon the motivation, self-evaluation, and frame of reference of founders with a communitarian social identity (Fauchart & Gruber, 2011). Measures contain self-reporting items about how well the firm attains social recognition among its target customers, creates opportunities to socialize with them, shares knowledge with them, and addresses their needs (Sieger et al., 2016b).

Societal performance is "the degree to which enterprises advance a cause for society at large" and is hence in line with the motivation, self-evaluation, and frame of reference of

founders with a missionary social identity (Fauchart & Gruber, 2011). The multi-item measure covers how well the firm creates new solutions to a societal problem, changes other companies' practices, raises public awareness, and induces regulatory changes (Sieger et al., 2016a). All items load highly on the proposed constructs with none cross-loading higher than 0.4.

Control variables included on the individual level are the founders' age and their career intention. Prior research shows that decision makers' age influences EO negatively (Engelen et al., 2015). Career intention measures whether participants want the business to become their main occupation after graduation. As entrepreneurial intention is proposed to be highly correlated with EO, one could also argue that the more individuals show entrepreneurial intention, the more EO on the individual and firm level (Bolton & Lane, 2012). In line with prior research (Rauch et al., 2009), the size of the firm in terms of the numbers of employees is included as control variable on the firm level. Industry environment is based on four items from Achrol and Stern (1988), measures customers' and competitors' dynamism in an economic sector and is proposed to explain variance in the firms' performance (Lumpkin & Dess, 2001).

To test for further reliability and validity of the reflective constructs, ρ_A , composite reliabilities, Cronbach's Alpha, and the average variance extracted (AVE) were examined. All constructs show ρ_A , composite reliability and Cronbach's Alpha values higher than 0.7 (Table 5-2) indicating construct reliability (Dijkstra & Henseler, 2015a). With regard to discriminant validity, and as shown in Table 5-2, the AVE shows scores close to or above 0.5 and the heterotrait-monotrait ratio of correlations (HTMT) which has been shown to be more accurate than the Fornell–Larcker Criterion and the evaluation of cross-loadings in PLS (Henseler et al., 2015) displays values below 0.9 and thus indicates discriminant validity.

5.4 Results

To test the hypothesized path model, we use the software SmartPLS 3.0, apply a consistent PLS path weighting scheme, and connect all latent variables to produce more stable results (Dijkstra & Henseler, 2015a, 2015b; Ringle et al., 2015). The stop criterion is set at a common 10^{-7} which means that the iterations stop when the change in the outer weights between two consecutive iterations reaches the proposed value. Significance tests are conducted by running a standard bootstrapping procedure with 5000 resamples consisting of 318 cases.

The R^2 of the mediating constructs range from 0.28 for innovativeness to 0.32 for risk taking and 0.30 for proactiveness. The dependent variables are explained by an R^2 of 0.32 for

Table 5-2: Construct and discriminant validity – consistent reliability coefficient for PLS (ρ_A), average variance extracted (AVE), Cronbach's Alpha (CA), composite reliability (CR), heterotrait-monotrait ratio of correlations.

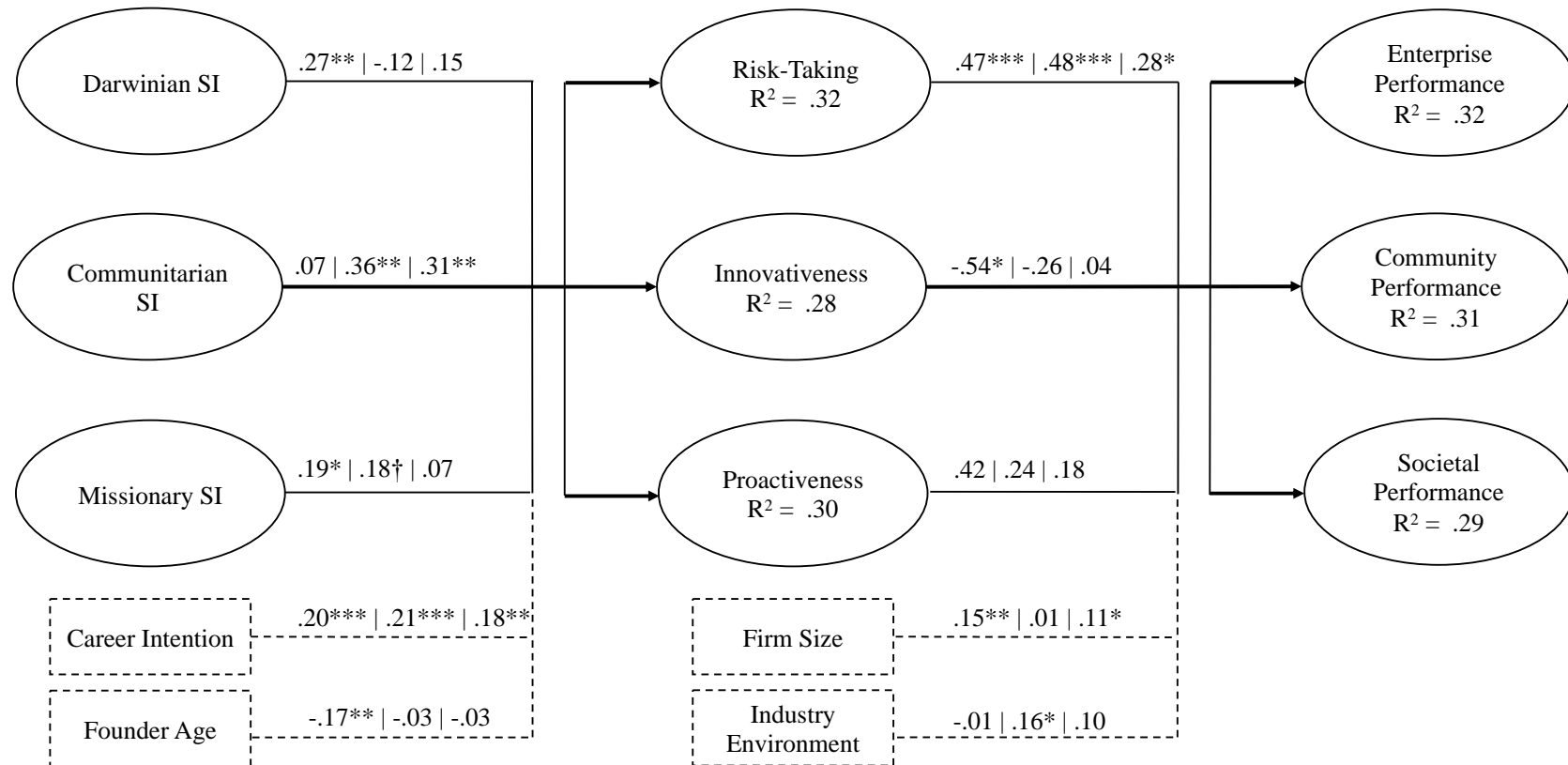
Variable	ρ_A	AVE	CA	CR	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Darwinian SI	0.803	0.42	0.77	0.78	-												
2. Communitarian SI	0.845	0.52	0.84	0.84	0.63	-											
3. Missionary SI	0.905	0.61	0.89	0.88	0.51	0.68	-										
4. Risk-taking	0.725	0.47	0.72	0.72	0.45	0.42	0.41	-									
5. Innovativeness	0.747	0.49	0.74	0.74	0.26	0.47	0.44	0.64	-								
6. Proactiveness	0.820	0.60	0.82	0.82	0.42	0.50	0.40	0.70	0.84	-							
7. Enterprise Performance	0.891	0.61	0.86	0.86	0.49	0.31	0.27	0.45	0.16	0.31	-						
8. Community Performance	0.871	0.57	0.87	0.87	0.40	0.61	0.40	0.51	0.28	0.40	0.57	-					
9. Societal performance	0.892	0.60	0.88	0.88	0.42	0.57	0.71	0.48	0.42	0.46	0.50	0.56	-				
10. Industry Environment	0.785	0.44	0.75	0.74	0.34	0.32	0.19	0.17	0.27	0.23	0.07	0.25	0.21	-			
11. Firm Size	-	-	-	-	0.32	0.21	0.23	0.25	0.21	0.27	0.26	0.16	0.26	0.13	-		
12. Founders' Age	-	-	-	-	0.13	0.04	0.13	0.11	0.07	0.05	0.10	0.04	0.05	0.03	0.02	-	
13. Career Intention	-	-	-	-	0.31	0.26	0.29	0.35	0.32	0.33	0.19	0.20	0.23	0.11	0.22	0.04	-

enterprise performance, 0.31 for community performance, and 0.29 for societal performance. The direct effects are presented in Figure 5-2 and indicate that the enterprises' entrepreneurial orientation, in other words, their tolerance of risk-taking, innovativeness, and proactiveness differs between founders with different types of social identity.

The results with regard to the control variables show that founders' age is negatively associated with their firms' orientation toward risk-taking ($-.17$; $p \leq .01$; $f^2 = .041$). Additionally, the intention to ensure their founded business becomes their main occupation after graduation significantly increases the founders' risk-taking ($.20$; $p \leq .001$; $f^2 = .053$), innovativeness ($.21$; $p \leq .001$; $f^2 = .052$) and proactiveness ($.18$; $p \leq .01$; $f^2 = .039$). Firm size significantly increases the reported enterprise performance ($.15$; $p \leq .01$; $f^2 = .028$) and societal performance ($.11$; $p \leq .05$; $f^2 = .018$) although for the latter with an insufficient effect size. On the industry level, our results show a positive significant effect of dynamic industry environments on community performance ($.11$; $p \leq .05$; $f^2 = .018$).

According to our theoretical reasoning, the more founders identify with a Darwinian SI the more their enterprises are oriented toward risk-taking ($.27$; $p \leq .01$; $f^2 = .063$) but there is no significant effect on innovativeness ($-.12$; n.s.; $f^2 = .011$) and proactiveness ($.15$; n.s.; $f^2 = .018$); results that indicate partial support for H₁. The more founders identify with a communitarian SI the more their enterprise is oriented toward innovativeness ($.36$; $p \leq .01$; $f^2 = .077$) and proactiveness ($.31$; $p \leq .01$; $f^2 = .058$) whereas the path from founders' communitarian SI to their orientation toward risk-taking is not significant ($.07$; n.s.; $f^2 = .003$); suggesting that H₂ is also partially supported. The more founders identify with the missionary SI the more their enterprise is oriented toward risk taking ($.19$; $p \leq .05$; $f^2 = .026$). However, identifying with a missionary SI has no significant effect on proactiveness ($.007$; n.s.; $f^2 = .003$) and innovativeness ($.018$; n.s.; $f^2 = .022$); results that offer partial support to H₃.

Furthermore, direct effects show that different dimensions of the enterprises' entrepreneurial orientation foster different outcomes. Risk-taking significantly and strongly affects enterprise performance ($.47$; $p \leq 0.001$; $f^2 = .162$) and community performance ($.48$; $p \leq 0.001$; $f^2 = .167$). Furthermore, it shows a less strong but significant effect on societal performance ($.28$; $p \leq 0.01$; $f^2 = .060$), indicating that H₄ is fully supported. Innovativeness has a significant strongly negative effect on enterprise performance ($-.54$; $p \leq 0.01$; $f^2 = .044$) but no significant effect on community performance (-0.26 ; n.s.; $f^2 = .028$) and societal performance ($.004$; n.s.; $f^2 = .001$); a finding that partially supports H₅. Proactiveness has no significant effect on enterprise performance ($.42$; n.s.; $f^2 = .061$), community performance ($.24$; n.s.; $f^2 = .02$) and societal performance ($.18$; n.s.; $f^2 = .011$); meaning H₆ has to be rejected.



n = 318, †p ≤ .10; *p ≤ .05; **p ≤ .01; ***p ≤ .001

Figure 5-2: Structural equation model displaying the effects from founders' social identity (SI) through their firms' entrepreneurial orientation on their outcomes.

5.5 Discussion

5.5.1 General discussion

This study aimed to answer the question of whether differences in founders' social identities lead to differences in their ventures' entrepreneurial orientation. By using a social identity perspective and an upper echelons framework, our study shows that founders' social identities do affect the entrepreneurial orientation of their recently founded ventures. These differences in the subdimensions of the EO were shown to not automatically translate into the founders' desired outcomes. Specifically, the results indicate that the more founders identify with a communitarian SI and focus on creating value for others, the more oriented toward innovation their firms are. On the other hand, the more founders identify with a Darwinian SI, that is, the more they focus on their economic self-interest, and a missionary SI, that is, they want to advance society, the more tolerant of risk-taking their firms are. However, the firms' orientation toward risk-taking not only improves performance on the enterprise level, but also on the community and societal levels.

The study contributes to the upper echelons discussion by for the first time empirically linking decision makers' social identity to their firms' strategic choices and performance (Hambrick, 2007). Furthermore, it adds a social identity theory perspective to the discussion about antecedents and consequences of firms' EO subdimensions (Covin & Lumpkin, 2011). Lastly, the study answers the call for more diversity in performance measurement (Gruber & MacMillan, 2017) by linking founders' social identities to specific performance measurements on the enterprise, community, and societal levels.

We find empirical evidence that differences in firms' orientation toward risk taking, innovativeness, and proactiveness might stem from their founders' social identity encompassing their basic motivation, frame of reference, and basis of self-evaluation. Enhancing upper echelon theory, this study therewith adds founders' social identity as an individual psychological characteristic that predicts a firm's strategic choices and its performance (Hambrick, 2007). Viewing the firms' antecedents and outcomes of entrepreneurial orientation from a social identity perspective highlights the heterogeneity in entrepreneurship (Welter et al., 2017). Moreover, because there is no fine line between a social and a commercial enterprise, there are founders who are not purely Darwinians, communitarians, or missionaries but pool different social identities into one concept of self (Fauchart & Gruber, 2011). By regarding the combination of the founders' identification with the SI concepts in one structural model, it is possible to predict their firms' behavior and outcomes. As entrepreneurial orientation can also be viewed as a behavioral attribute of

entrepreneurial firms (Covin & Lumpkin, 2011), this study is also based on and supports the work of Gruber and MacMillan (2017) who state that founders' social identity affects entrepreneurial behavior. By considering different outcomes related to the founders' social identities, the study answers the call for more heterogeneity in performance measurement (Gruber & MacMillan, 2017) and in the process acknowledges that founders' desired outcomes for their new firms differ significantly.

5.5.2 Implications for practice

The study's implications for practice reveal potential for improvement in the entrepreneurial process and the outcomes of entrepreneurial activities for founders and policy makers. Its results illustrate differences in firms' entrepreneurial orientation that can be explained by their founders' social identities. Specifically, the findings indicate that a new firm's innovativeness is likely to be associated with founders who want to create value for their community, whereas founders essentially driven by a desire for personal wealth and the mission to change the world set up more risk-tolerant firms. The paramount question for founders might be whether their strategic choices, namely their entrepreneurial orientation, lead to their desired outcomes. Our results indicate that the firms' strategic choices are only partially able to deliver the outcomes desired by their founders. Risk-taking positively affects outcomes on the enterprise, community, and societal levels but is only related to founders with a Darwinian and missionary SI. In turn, this means that founders with a communitarian SI could profit from their firms adopting a more risk-tolerant stance as their desired outcomes on the community level might benefit from that strategic choice. Interestingly, the findings are in line with claims that decision makers' attitudes toward taking risks are often not rational in the sense that potential outcomes and their probability of occurring are weighed but are instead stable features of their personalities (March & Shapira, 1987). Founders with a communitarian SI acting more innovatively but not taking the necessary risks to turn their efforts into early successes might also be a signal for policy makers to help those entrepreneurs to acquire the resources necessary to accomplish their complex and valuable missions. Apart from that, firms whose founders exhibit a rather missionary social identity and apply an innovative strategic posture should be strengthened in the early stages of their development as their desired outcomes might need perseverance to unfold. Innovative solutions for unsolved societal problems could then be role models for entire industries positively impacting society at large.

In times of huge technological, societal, and economic transformation, radical innovations are needed to lead the transition. Our results show that founders driven by adding

value for their community might be at the forefront of creating these radical innovations, but that they will need support to translate their innovativeness into real outcomes on the enterprise, community, and societal levels.

5.5.3 Limitations and directions for future research

There are some limitations related to this study that pave the way for future research in the area. Future studies might for example examine the entrepreneurial process at different points in time to be able to make statements about a possible change in the firms' entrepreneurial orientation (Lumpkin et al., 2013). Although a social identity begins to be formed in childhood and is relatively stable over time (Fauchart & Gruber, 2011), it might also be interesting to see whether changes to the founders' SI affect their firms' EO over time. Furthermore, longitudinal data would also improve our understanding of the long-term effects of EO (Wiklund, 1999) on outcomes related to the founders' SI. This study's results show that increased risk-taking positively affects desired outcomes for both socially-oriented and profit-oriented founders. However, we assume that risk-taking, especially for outcomes on the community and societal levels, has negative effects in the long term.

Furthermore, self-reported measures in the outcomes might be challenged by social desirability bias and future studies might therefore combine them with objective outcome measures. However, it should be born in mind that social outcomes are difficult to quantify (Morris et al., 2011) and as Rauch et al. (2009) note in their meta-analysis on the EO–performance relationship there is no significant difference between self-reported and objective performance measures, suggesting the former method does not pose a significant threat to validity.

Future studies might also test social EO scales as proposed by Kraus et al. (2017). Doing so would enable them to consider the differences of commercial and social enterprises in their entrepreneurial processes. However, our study is based on the most common EO scale (Covin & Slevin, 1989) to draw comparisons between founders with different social identities, which is a challenge for further studies seeking to acknowledge the heterogeneity in entrepreneurship.

Finally, as some hypotheses are only partially supported, we assume that there are boundaries to the proposed relationship between founders' social identity, their firms' EO, and the related outcomes. This notion also offers avenues for future research. An interesting direction would for example be to observe the effect of hybrid identities involving more than one dominant social identity and that of different team members' SI on individual and firm-level EO (Kollmann et al., 2017) to better understand the effect of the founders social identity

on their firms' entrepreneurial processes. Although some moderators of the EO–performance relationship are already discussed (Rauch et al., 2009), the question of whether they also moderate the relationship between EO and outcomes on the community and societal level might be an avenue of future research too.

5.6 Conclusion

This study's findings illustrate the decisive role of founders' social identities in the strategic choices of their ventures. Therewith, it might pave the way for a discussion about what kind of entrepreneurial orientation needs to be applied in the early entrepreneurial process to achieve founders' desired economic and social outcomes.

Appendix

Table 5-3: Items measuring founders' social identity, entrepreneurial orientation, performance and industry environment.

Constructs with respective items derived from GUESSS 2016	Scale	Reference
<p>Darwinian Social Identity</p> <p>... to advance my career in the business world.</p> <p>... to operate my firm on the basis of solid management practices.</p> <p>... to have thoroughly analyzed the financial prospects of my business.</p> <p>... to have a strong focus on what my firm can achieve vis-à-vis the competition.</p> <p>... to establish a strong competitive advantage and significantly outperform other firms in my domain.</p>	7-point Likert	Sieger et al., 2016a
<p>Communitarian Social Identity</p> <p>... to solve a specific problem for a group of people that I strongly identify with (e.g., friends, colleagues, club, community).</p> <p>... to play a proactive role in shaping the activities of a group of people that I strongly identify with (e.g., friends, colleagues, club, community).</p> <p>... to provide a product/service that is useful to a group of people that I strongly identify with (e.g., friends, colleagues, club, community).</p> <p>... to have a strong focus on a group of people that I strongly identify with (e.g., friends, colleagues, club, community).</p> <p>... to support and advance a group of people that I strongly identify with.</p>	7-point Likert	Sieger et al., 2016a
<p>Missionary Social Identity</p> <p>... to play a proactive role in changing how the world operates.</p> <p>... to be a highly responsible citizen of our world.</p> <p>... to make the world a "better place" (e.g., by pursuing social justice, protecting the environment).</p> <p>... to have a strong focus on what the firm is able to achieve for society at large.</p> <p>... to convince others that private firms are indeed able to address the type of societal challenges that my firm addresses (e.g., social justice and environmental protection).</p>	7-point Likert	Sieger et al., 2016a

Table 5-4: Continued.

Constructs with respective items derived from GUESSS 2016	Scale	Reference
EO Risk Taking A cautious, "wait and see" posture in order to minimize the probability of costly errors. / A bold, aggressive posture in order to maximize the probability of exploiting opportunities. A tendency to undertake low-risk projects with normal and certain rates of return. / A strong tendency to undertake high-risk projects with the chance of very high returns. Exploring the environment through gradual, cautious, and incremental acts. / Exploring the environment through bold, wide-ranging acts.	7-point Semantic Differential	Covin and Slevin, 1989
EO Innovativeness A strong emphasis on marketing true and tried products. / A strong emphasis on R&D, technological leadership, and innovations. Minor changes in product or service lines. / Quite dramatic changes in product or service lines. Introducing no new product and service lines. / Introducing very many new product and service lines.	7-point Semantic Differential	Covin and Slevin, 1989
EO Proactiveness Very seldom being the first to introduce new products/services. / Very often being the first to introduce new products/services. Responding to actions that competitors initiate. / Initiating actions that competitors respond to. Following the leader in introducing new products or services. / Being ahead of competitors in introducing new products or services.	7-point Semantic Differential	Covin and Slevin, 1989
Enterprise Performance Profitable compared to other comparable businesses Sales growth compared to other comparable businesses Market share growth compared to other comparable businesses Creating personal wealth for yourself as the entrepreneur	7-point Likert	Sieger et al., 2016b
Community Performance Creating the opportunity to socialize with your target customers Sharing information or knowledge with your target customers Allowing yourself to attain strong social recognition among your target customers	7-point Likert	Sieger et al., 2016b

Table 5-4: Continued.

Constructs with respective items derived from GUESSS 2016	Scale	Reference
<p>Helping your target customers distinguish themselves from other consumers or groups</p> <p>Being the first mover in addressing the needs of your target customers</p>		
<p>Societal performance</p> <p>Developing a new solution to a specific problem existing in society</p> <p>Changing other companies', practices</p> <p>Being a role model for other businesses</p> <p>Raising public awareness about a specific societal problem</p> <p>Inducing regulatory changes</p>	7-point Likert	Sieger et al., 2016b
<p>Industry Environment</p> <p>Customer preferences are continually evolving in our industry.</p> <p>Customer demand for our products/services varies continuously.</p> <p>Other businesses are continually introducing new products into our market.</p> <p>Other businesses are continually devising new selling strategies in our market.</p>	7-ppoint Likert	Achrol and Stern, 1988

6 Discussion and conclusion

The purpose of this doctoral thesis is to investigate how individuals' perceptions of their positions and belonging to social systems influence key mechanisms in the entrepreneurial process. Over the course of four studies, the thesis sheds light on how social class origins, social mobility and social identity processes influence individuals' entrepreneurial agency beliefs, shapes choices of entrepreneurial career entry, forms strategic orientations on the firm-level and finally impacts entrepreneurship outcomes for the organization, the community and the society.

Overall, the results of the four studies contribute to research on how individuals interpret social situations and accordingly form decisions in the entrepreneurial process (Shepherd et al., 2015). For instance, study 1 and 3 show how positions and belonging in social systems influence entrepreneurial self-efficacy, Study 2 indicates how decisions of entrepreneurial entry are influenced by social class origins and social support of relevant others whereas Study 4 outlines the effects of the beliefs in belonging to a group as predictor for strategic decisions on the firm-level. This might open up avenues for further research on individuals' positions in social hierarchies and their entrepreneurial cognition, i.e. their decisions in the entrepreneurial process. Particularly, positions in social systems might – through their cognitive implications - inform how individuals discover, evaluate and exploit entrepreneurial opportunities. The contributions for extant theory and future avenues for research are manifold and are discussed in the following.

6.1 Short-term vs. long-term entrepreneurial opportunities

Study 2 indicates that social class origins influence how individuals enter entrepreneurial careers. Particularly, higher socio-economic status backgrounds showed to predict hybrid entrepreneurial career choices with individuals developing their own businesses in parallel to a career at an established organization. For instance, life history theory in the context of social hierarchies states that because individuals of a lower social class are born into rather uncertain and risk-laden environments, their adult life-history-strategies are based on their having learned to adapt flexibly to changing circumstances (Mittal et al, 2015). That experience generally leads them toward faster life strategies including shorter time horizons and an orientation toward the present (Frankenhuis et al., 2016). The logic here is that in uncertain environments it is less likely that the future can be planned and shaped, which is why

individuals allocate their resources in a way that favors the present. The inherent economic logic can be illustrated in the extreme example of uncertain environments leading to reductions in life expectancy and individuals accordingly aligning their resource allocation in a *live fast, die young* strategy (Nettle, 2010; Pepper & Nettle, 2017). An individual adopting a fast life strategy manifests in behaviors such as earlier reproduction, greater impulsiveness, and increased risk-taking (Griskevicius et al., 2013; Griskevicius et al. 2011a). Such behaviors have been attributed to a lack of self-regulation and control with regard to long-term goals (Griskevicius et al., 2011b; Mittal & Griskevicius, 2014; Mittal et al., 2015).

Therefore, when presented with alternative entrepreneurial opportunities, positions in social hierarchies might influence the choice of long-term opportunities involving the need to delay gratifications and short-term entrepreneurial opportunities implying immediate rewards. Against the background of long gestation periods of high-technology ventures (Liao & Welsch, 2008), more disruptive types of entrepreneurship might be less likely explored by individuals from lower social positions. Furthermore, responses to adverse situations (such as external shocks - Kuckertz et al., 2020 or entrepreneurial failure – Kibler et al., 2017; Mandl et al., 2016) might differ between individuals with different social class backgrounds (Mittal et al., 2015). Prior research on necessity entrepreneurship highlights a lack in innovativeness in the businesses of those self-employed individuals being driven by the need of essential resources (Dencker et al., 2021). However, based on the results of this thesis (specifically Study 1 and 2), research on necessity entrepreneurship could be transferred to the investigation of individuals that have left their precarious position in a social system but might have carried their cognitive imprint to their new environments. For instance, Kish-Gephart & Campbell (2015) find that such cognitive imprints from social class origins can last and shape decisions on the firm-level even if individuals have climbed the social ladder to the CEO-level. Further, Martin & Côté (2019) indicate that individuals transitioning through social classes carry on and further develop their cultural abilities making them able to bridge cultural gaps in organizations. Hence, studying under which conditions individuals activate cognitive imprints of their past in their engagement with entrepreneurial opportunities is of major importance to understand their entrepreneurial decisions in recent environments and represents a research direction to further explore.

6.2 Social signals and other's perceptions of positions and belonging in the entrepreneurial process

Throughout the four studies in this doctoral thesis, the results indicate how self-perceptions of positions and belonging to social systems influence individuals' cognitive processes and organizational outcomes in the entrepreneurial process. Specifically, the findings suggest that objective environments might be interpreted differently by the individual (see perceptions of individual social mobility in Study 1). Further, significant strategic decisions on the firm-level depend on individuals' perceptions of their belonging to social systems (Study 4). Whereas these results contribute to theory development in founders' social identity (Fauchart & Gruber, 2011) and socio cognitive theory in the entrepreneurial context (Bandura, 2012), it also lays the ground for further research on how positions and belonging are interpreted by relevant others. For instance, in Study 2, the perceived support of relevant others influences individuals' entrepreneurial career path choices. In Study 1, I hypothesize that social reactions on individuals' position in social hierarchies reinforce structural disadvantages in entrepreneurial cognition. This corresponds with research on organizational behavior suggesting that individuals in organizations are treated differently by others based on their social backgrounds (Pitesa & Pillutla, 2019). This occurs due to individuals assessing others' socio-economic background. Particularly, social signals of status become visible through speech, language and behavior resulting in surprisingly accurate estimations of individuals' social class backgrounds even for external parties (Kraus & Keltner, 2009; Kraus, Park, & Tan, 2017). For instance, Kraus & Keltner (2009) show that without any background information, individuals are able to predict the socio-economic status background of other individuals only based on watching a person in a 60 seconds non-verbal video. Pitesa & Pillutla (2019) propose that individuals' signals of poorer backgrounds influence other organizational members' selection decisions, performance-evaluation and mentoring. Consequently, these intra-organizational hurdles for employees from lower social classes lead to diminished social mobility opportunities in the organization.

Based on the results of this thesis, further research might exactly target how positions in social hierarchies perceived by others might affect these dimensions in the entrepreneurial process. For instance, Rivera & Tilcsik (2016) find that signs of social class in CVs significantly impact selection decisions in elite organizations. This lends support to the assumption that homophily -i.e. the tendency to align with similar others- applies to the preference in organizations to cooperate with those of similar social status (Lawrence & Shah, 2020). That is, higher status individuals show to assess competence based on the other's status and in

general prefer interactions with similar-status individuals (Blader & Chen, 2011). Against the background of these theories and findings, the results of this doctoral thesis can lay the ground for assessing how entrepreneurs' signals of social status influence key mechanisms in the entrepreneurial process. For instance, recent research suggests that gender differences influence the investor-founder relationship posing structural disadvantages for female entrepreneurs (Huang et al., 2020). Since resource exchanges between investors and entrepreneurs are highly dependent on the functioning of their social relationships (Huang & Knight, 2017), social status homophily mechanisms might likely occur. In the wake of these mechanisms, startup valuation might also differ based on founders' backgrounds (Köhn, 2018; Röhm et al., 2018). Hence, future research on entrepreneurs' social signals as well as the perception and response of relevant others - such as venture capital investors - to these social signals might be of interest to investigate structural disadvantages in the entrepreneurial process.

6.3 Founders' social identities and social status

Further, whereas Study 1 and 2 suggest that individuals' perceptions of their social positions affect mechanisms in their entrepreneurial process, results of studies 3 and 4 highlight the influence of individuals' feel of founder group belonging on respective outcomes for their ventures' strategic orientations and performance. The latter findings contribute to our understanding of group and identity processes (Brewer & Gardner, 1996; Tajfel & Turner, 1986) and specifically founder social identity theory (Fauchart & Gruber, 2011) by, for the first time, testing some of its underlying assumptions such as the link between founders' social identity and entrepreneurial behavior (Gruber & MacMillan, 2017). Future research might focus on the determinants of such founders' social identity processes as well as their formation over time.

Particularly, I suggest that the findings in this doctoral thesis on the relevance of social positions in reflecting individuals' role as entrepreneurial agents provide the opportunity to combine research on founders' social status and identity. More specifically, socio cognitive theory in the context of social classes indicates that individuals growing up in harsh environments provide cognitive tendencies highlighting the dependence on others whereas environments that provide abundant resources more likely shape individuals cognitive tendencies towards independence towards others (Kraus et al., 2012). For instance, Dubois et al. (2015) show that individuals from lower compared to higher social classes only behave unethically if it serves the purpose to help others whereas those from higher social classes show higher levels of selfishness in their decisions and behavior. I propose that social class origins

are related to founders' social identities. That is, the cognitive tendencies toward others might be reflected in the formation of founders' social identities. Hence, individuals from lower social classes might stick to a cognitive tendency to care for relevant others and form communitarian or missionary founder social identities including the solving of problems for others through entrepreneurship (Fauchart & Gruber, 2011). On the other hand, individuals from higher social class environments might rather form Darwinian founder social identities implying a focus on the self in its objectives in the entrepreneurial process. This might have important implications for entrepreneurial entry and survival. Narcissism plays a prominent role in entrepreneurship as the founding of a new venture is tied closely to the formation of the founder's identity (Navis & Ozbek, 2016). Thereby, narcissism not only propels entry into entrepreneurship but also implies pitfalls in the entrepreneurial process such as imperished abilities to learn from entrepreneurial failure (Liu, Li, Hao, & Zhang, 2019). Hence, I suggest that while higher social class background might propel individuals' entry via a Darwinian social identity into entrepreneurship (Study 3 finds higher entrepreneurial self-efficacy among those with stronger Darwinian social identities), it might be also at risk with successfully navigating through the entrepreneurial process (Study 4 finds those ventures led by founders orientated toward others to be more innovative). Therefore, combining research on entrepreneurs' social status and their social identity might yield interesting findings contributing to further understand the role of social embeddedness in the entrepreneurial processes.

6.4 Concluding thoughts – a call for further research on social inequality and entrepreneurship

The findings of this dissertation contribute to research on the social embeddedness of the entrepreneurial process (Anderson & Jack, 2002). Particularly, the findings add evidence on and conceptualize how individuals' perceptions of their social self (i.e. social groups and social hierarchies) influence entrepreneurial cognition (i.e. their self-efficacy beliefs) and translate toward strategic orientations (i.e. entrepreneurial orientation) and performance of their newly found ventures.

By highlighting the influence of social contexts and individuals' interpretation thereof on key mechanisms in the entrepreneurial process, this dissertation aims at entering a discussion on the impact of social contexts and the inclusiveness of entrepreneurial opportunities. Prior research highlights the potential of entrepreneurship to be an equalizer by providing opportunities for individuals to experience upward mobility (Kimmitt et al., 2020). However, entrepreneurial actors' initial wealth influences the type of entry as well as the perseverance in

the entrepreneurial process (Frid et al., 2016; Xavier-Oliveira et al., 2015). Hence, structural advantages in resources affect individuals' entrepreneurial activity (Perry-Rivers, 2016). Yet, this doctoral thesis argues that social inequalities – and particularly the perception thereof – further drive cognitive differences in how individuals approach and succeed in the entrepreneurial process. For instance, Haushofer & Fehr (2014) call individuals' diminished cognitive orientations to take risks and act long-term the “psychology of poverty”. Prior research indicates that organizations reproduce social disadvantages - or at least hamper social mobility - due to the influence of social backgrounds (i.e. positions in the social hierarchy) on employees' work capacity and style as well as on third-party treatments (Pitesa & Pillutla, 2019). Particularly, employees being situated in lower positions of social hierarchies face disadvantages in most steps of the organizational process encompassing hiring and promotion (Amis et al., 2020). Consequently, organizations can be the product and the producer of social inequality (Bapuji et al., 2019). Further research in the field of entrepreneurship might investigate how positions in social hierarchies influence individuals opportunity identification (I suggest that social class influences the value of ties with regard to the identification of entrepreneurial opportunities – Burt, 2004; Kuckertz et al., 2017), how individuals inheriting different positions in social hierarchies evaluate entrepreneurial opportunities (I expect different levels of risk and long vs. short term preferences based on social class positions) and how individuals exploit entrepreneurial opportunities. Particularly, how in the startup process access to resources is granted or refused by resource holders and their perceptions of competence and homophily with regard to founders' social class backgrounds. Finally, research might investigate if and how individual social status transfers to organizational social status (Podolny, 1994; Pollock et al., 2019). That is, further research might look into how founders' social class origins predict the standing of their organization in a network of firms. Overall, this doctoral thesis can only be a starting point of understanding the role of social positions in the entrepreneurial process. Given the relevance of the presented research questions for understanding the inclusiveness of entrepreneurship, it calls researchers to contribute to this emerging field.

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